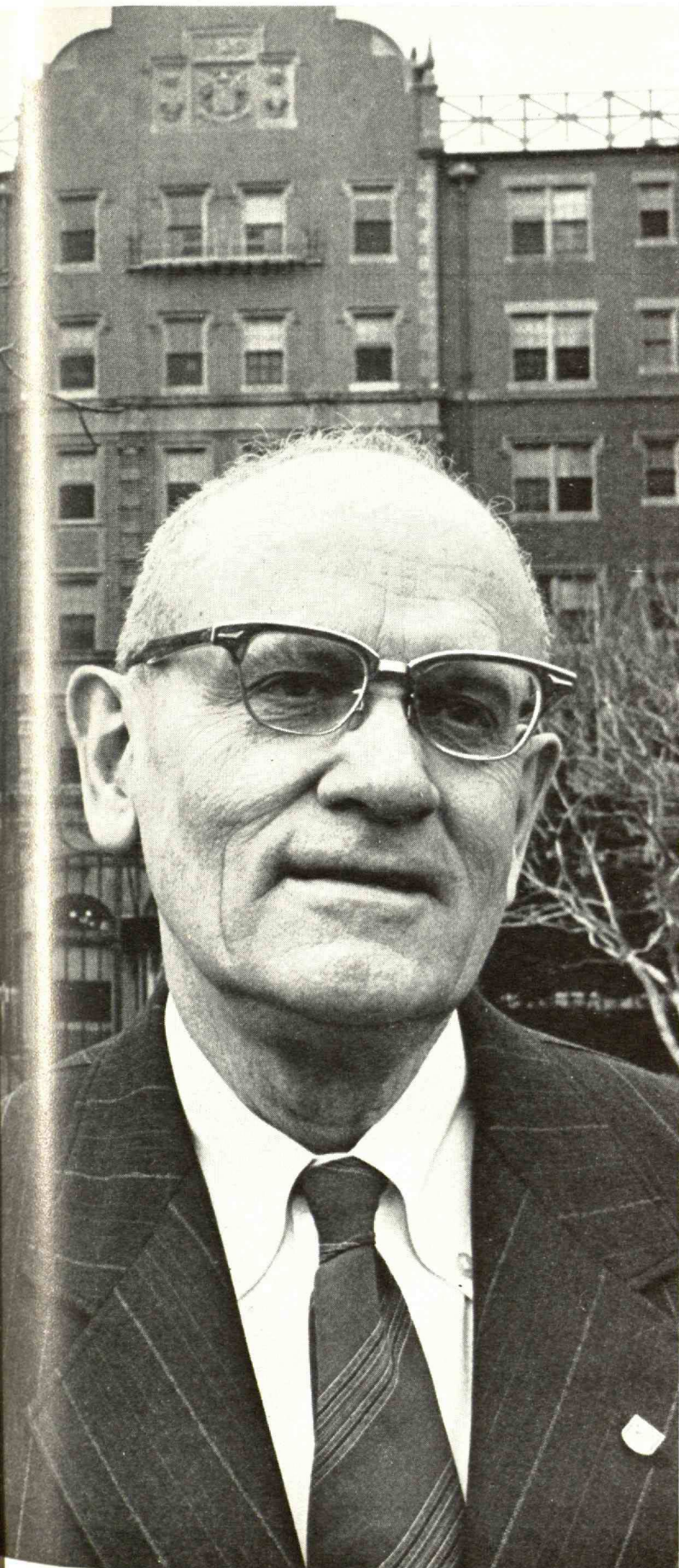


Technology Review

Edited at the Massachusetts Institute of Technology



The World We Live In

Reports from three continents
by M.I.T. men, Pages 19, 22 & 25

On M.I.T.'s Campus

The Graduate House will become
Ashdown House, Page 31

Sixty professors are promoted;
a few retire, Pages 32 & 33

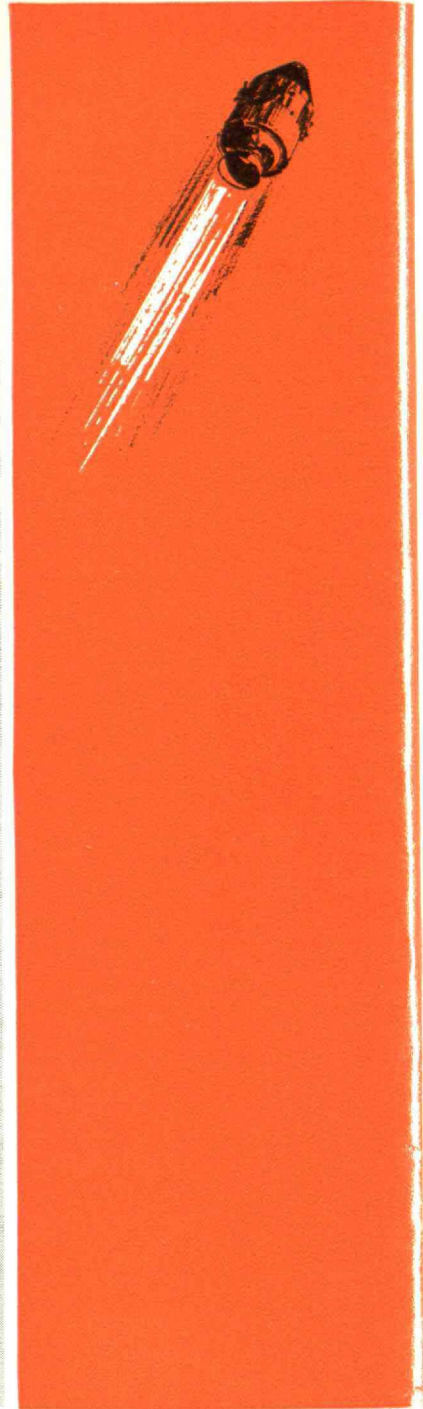
Another dormitory for women
will be built, Page 38

June, 1965

technology review

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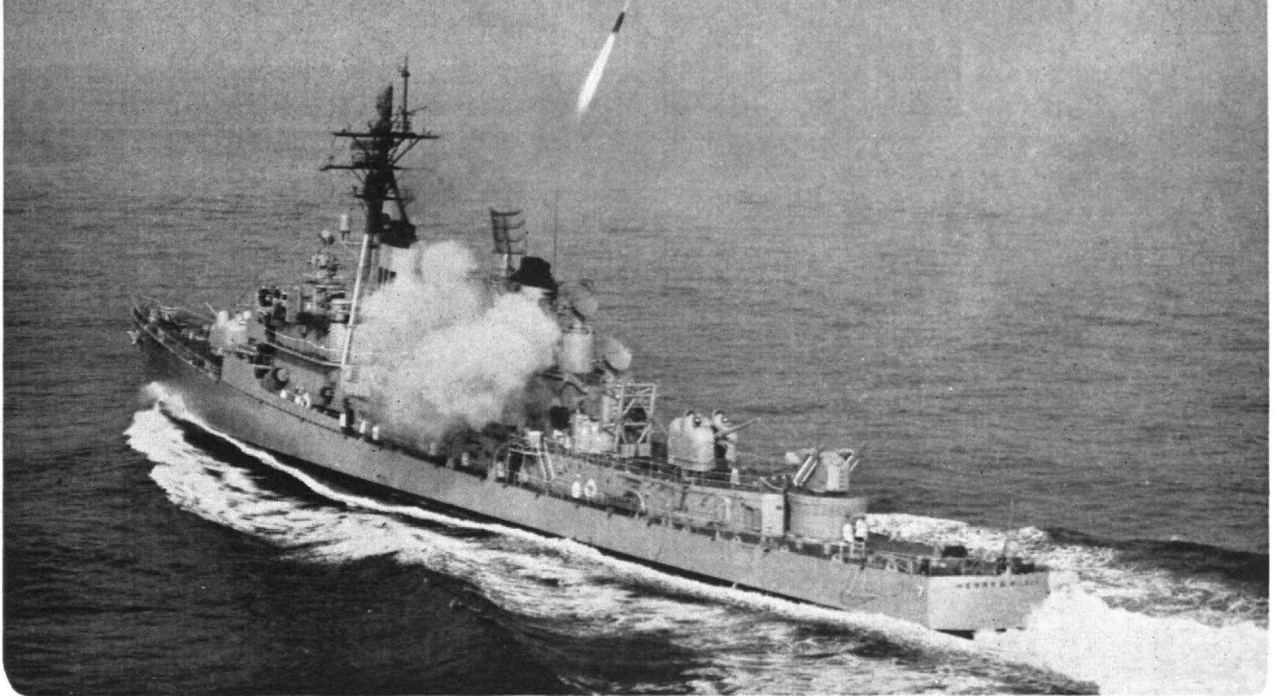
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Swallow wings and mission bells still enrich the air at San Juan Capistrano. But beyond earshot on the outskirts of town you can listen to the future. Here, on a new 2700-acre rocket site, TRW Space Technology Laboratories is building the engine that will land man safely on the moon in a few years. This lunar descent engine is one

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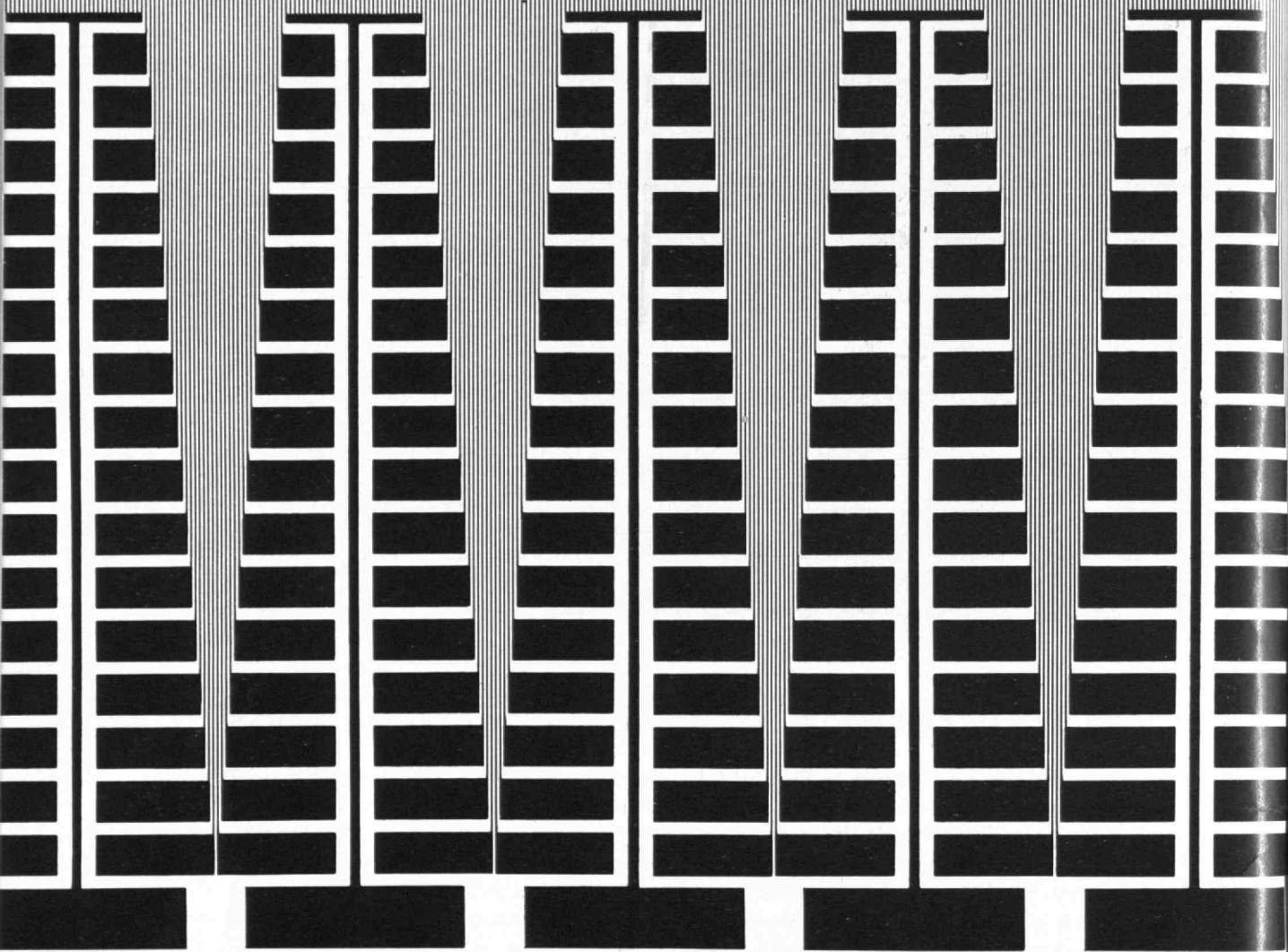
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Technology Review

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An annual subscription to Technology Review is \$4 in the U.S., \$4.50 in Canada and elsewhere, and a single copy, 60 cents. Three weeks must be allowed to effect a change of address, for which both the old and the new address of the subscriber should be given.

The office of publication is 10 Ferry St., Concord, N.H., where The Review is printed by The Rumford Press. Second-class postage is paid at Concord, N.H.

POSTMASTER: Please return undeliverable copies to The Rumford Press, 10 Ferry St., Concord, N.H. 03302

THE COVER PHOTOGRAPH of Associate Professor, Emeritus, Avery Allen Ashdown, '24, was taken outside Graduate House, which will be re-named Ashdown House on June 14, Alumni Day in Cambridge . . . Page 31.



Music in Kenya

The World We Live In

That is the Alumni Day theme at M.I.T. and this issue features reports from three continents by Alumni:

The Leverage of M.I.T. Abroad 19
Rodrigo Botero, '56, tells of the Colombia Club's catalytic service.

The Kanpur Indo-American Program 22
Professor Norman Dahl, '52, describes an engineering school in India.

The Culture Gap in Kakamega 25
Henry Hamburger, '61, pictures the plight of bright boys in Africa.

Exhibition 1 in the M.I.T. Armory 28
Local photographers' work will be hung on campus this month.

The Changing Campus of M.I.T. 30
A very brief account of what Alumni will see on June 14.

How to Plan a Happy Career 36
Raphael Soifer, '63, and a colleague describe tree-climbing.

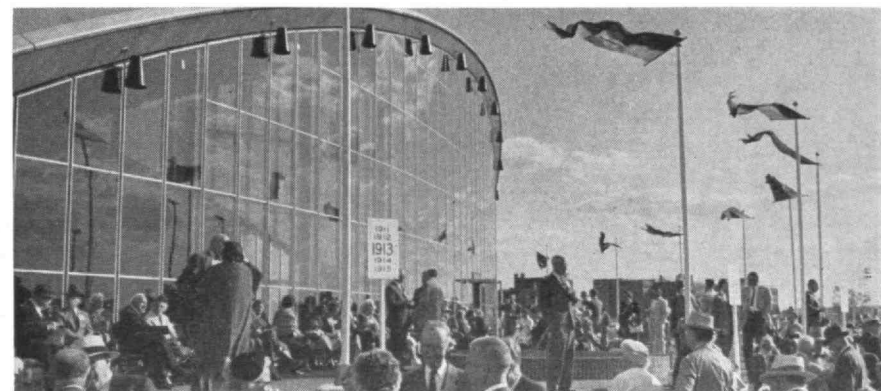
Historic Scientific Books Given to M.I.T. 41
I. Austin Kelly, 3d, '26, makes 15 rare volumes available.

Some Schema by Robert E. Mueller, '48 42
The art of the future, he suggests, may be quite simple.

Library Problems Will Be Explored 44
Summer group will consider an information transfer complex.

Swift Feedback in Survey Research 47
Professor William M. Evan describes a demonstration experiment.

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Professors Retiring	33	New Books	48



Individuals Noteworthy



Camille Dreyfus Professor

ARTHUR C. COPE, Head of the Department of Chemistry, will be M.I.T.'s first Camille Dreyfus Professor. This endowed chair, made possible by a grant from the Camille and Henry Dreyfus Foundation, honors the memory of a world-famous chemist who founded, with his brother, three major chemical-industrial enterprises: British Celanese, Ltd., Canadian Celanese, Ltd., and Celanese Corporation of America.

Professor Cope was born in Indiana, was graduated from Butler University, and received his Ph.D. from the University of Wisconsin. He was a National Research Fellow at Harvard University from 1932 to 1934, working there with Professor E.P. Kohler. He then went to Bryn Mawr College where in addition to teaching he did research on condensation and alkylation reactions, discovering the reaction now known by his name involving rearrangement of allyl groups in a three-carbon system. While holding a Guggenheim fellowship in 1941 for "Studies of the Phenomenon of Tautomerism," he joined the Columbia University faculty and continued his research on reductive alkylation and preparation of amines and amino alcohols.



Arthur C. Cope

As technical aide of the National Defense Research Committee from 1942 to 1944 he was responsible for administering military research programs in such diverse areas as chemical warfare agents and antimalarial drugs, and for his services was given the Certificate of Merit.

Dr. Cope came to M.I.T. in 1945, became head of the Department, and began research on cyclic polyolefins, working initially with cyclooctatetraenes. In 1952 he observed the first transannular reaction of medium-size ring compounds, and he has since continued work in this area, which involves studies on proximity effects of various substituents.

He received the American Chemical Society Award in Pure Chemistry in 1944 for his contributions in the fields of synthetic organic chemistry and molecular arrangements, the Charles Frederick Chandler Medal from Columbia University in 1958 for his pioneer work on the chemistry of medium-size ring compounds and for his recognition of transannular reactions, and the William H. Nichols Medal from the ACS New York Section in 1964. At the National Organic Symposium this month, Dr. Cope will receive the Roger Adams Award, which recognizes outstanding contributions to research in organic chemistry.

He was president of the ACS in 1961 and has recently been elected to a sixth term as chairman of its Board of Directors. He has been on the board of editors of *Organic Reactions*, *Organic Syntheses*, *Journal of the American Chemical Society*, and *Journal of Organic Chemistry*.

Professors Honored

PROFESSOR ALFRED E. HARPER of M.I.T. received the 1965 American Institute of Nutrition Borden Award. . . . Professor Robert J. Van de Graaff was awarded an honorary doctor of science degree by Florida State University. . . . Professor Charles L. Miller, '51, was named one of 11 "outstanding young men of Greater Boston" by the Boston Junior Chamber of Commerce.

New Department Head

FRANK PRESS, Professor of Geophysics at the California Institute of Technology, will succeed Professor Robert R. Shrock as Head of the



Frank Press

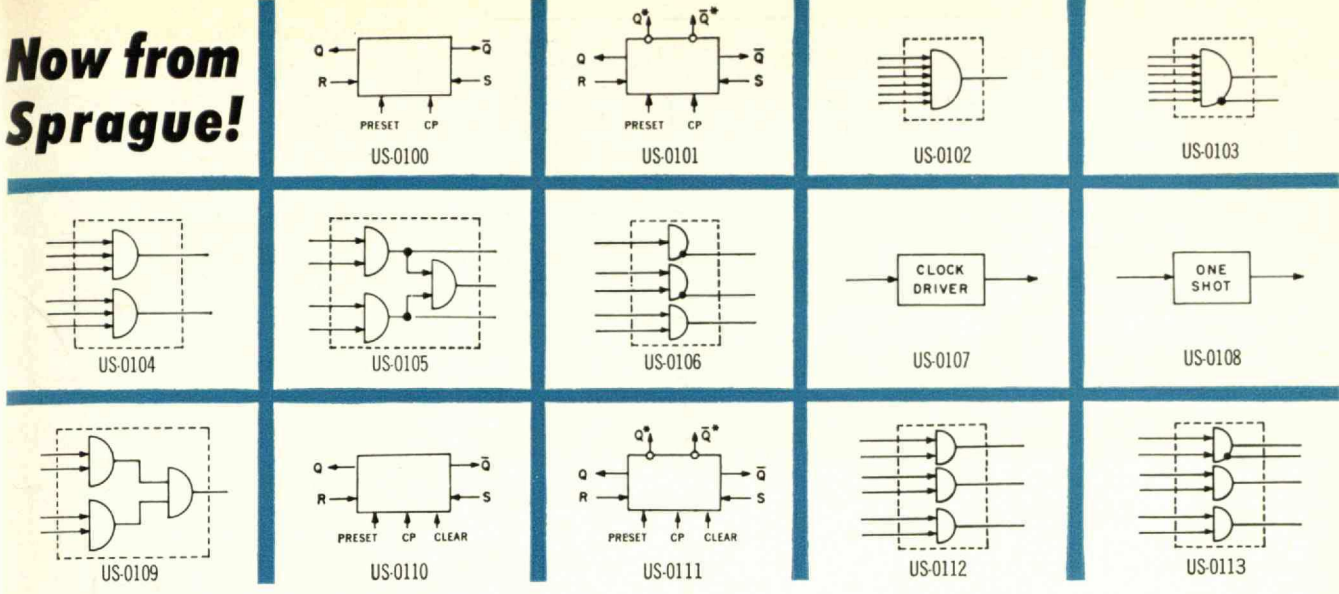
M.I.T. Department of Geology and Geophysics next fall.

Professor Shrock asked more than a year ago to be relieved of administrative duties to concentrate on his research, writing, and teaching. He is a recognized authority on forms of life in past geological periods and sedimentary rock formed from pre-existing material. Under his leadership, the Department has developed an academic program closely related to mathematics, other sciences, and engineering. It has undergone vigorous expansion and moved into the new 20-story Cecil and Ida Green Building. In co-operation with the Woods Hole Oceanographic Institution, of which Professor Shrock is a trustee, it now has a broad program of oceanographic research with support from the Office of Naval Research.

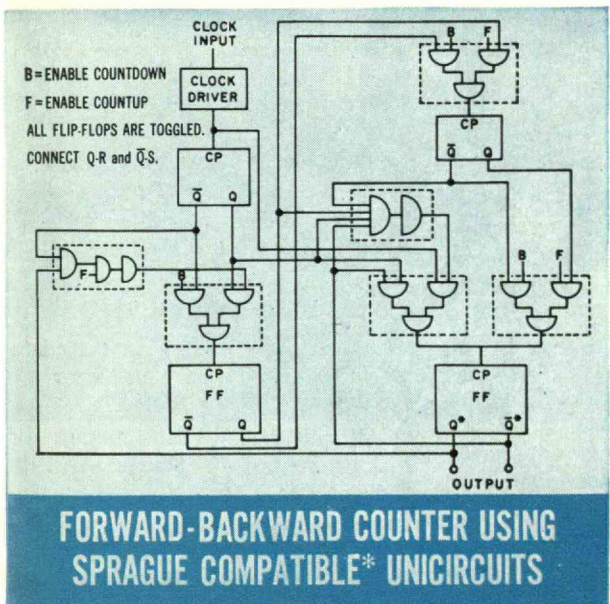
Professor Press has directed the famous Seismological Laboratory at Cal Tech since 1957. A mountain in Antarctica has been named Mount Press in his honor, and he is now chairman of the panel, established after the Alaskan earthquake by the federal Office of Science and Technology in the Executive Office of the President, to study the possibility of predicting earthquakes.

(Continued on page 6)

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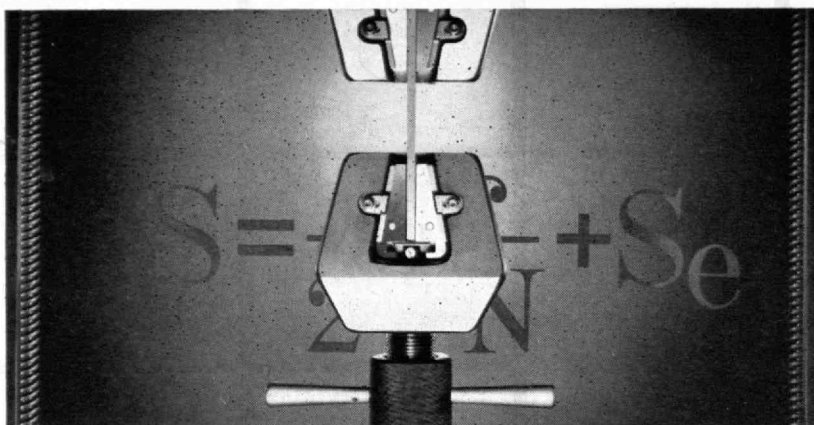
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Individuals Noteworthy

(Continued from page 4)

Professor Press is the author or co-author of more than 100 scientific articles and four books. He was president of the Seismological Society of America in 1962, is a member of the National Academy of Sciences and numerous other professional groups, and has assisted many government agencies.

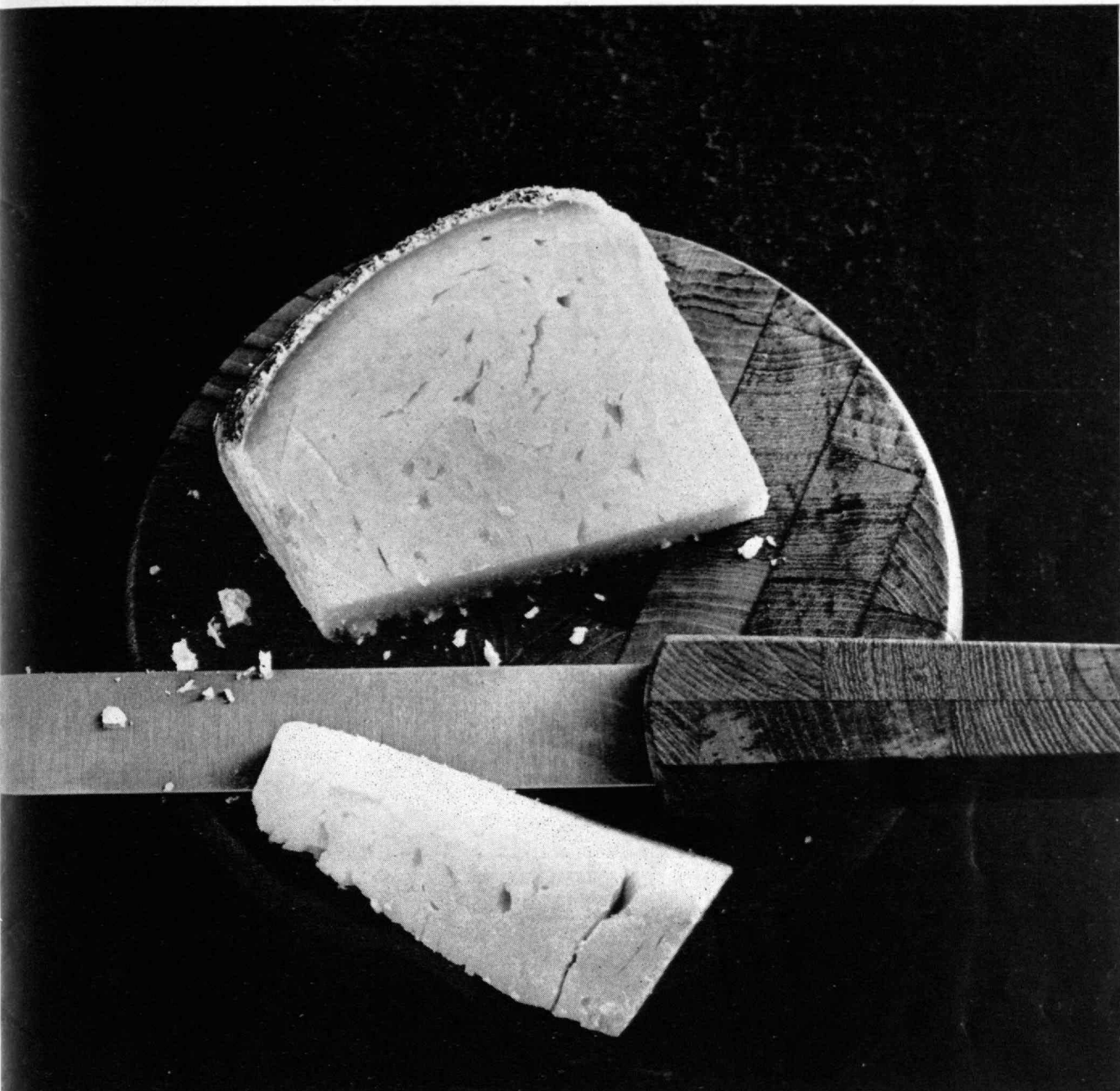
He was a member of a team of geophysicists who first identified free oscillations that reverberate for a long period after an earthquake and cause the earth to vibrate like a ringing bell. He also has played an important role in measuring the thickness of the earth's crust. He helped during the International Geophysical Year to show that the part of the crust occupied by the North American continent is 23 to 30 miles thick, and to analyze seismic data showing that Antarctica is a true continent. He has worked, too, on seismic techniques for detecting and measuring nuclear weapons tests, and was a member of the U.S. delegations to test-ban conferences in 1959, 1960, 1961, and 1963.

Born in Brooklyn in 1924, he studied at the College of the City of New York and Columbia University, and taught at Columbia before going to California in 1955. In 1956-1959 he was an Alfred P. Sloan Fellow, and in 1960 he was chosen as the California Scientist of the Year.

Faculty Notes

DEAN JEROME B. WIESNER of the M.I.T. School of Science will be chairman of a special committee on arms control and disarmament for the United Nations Association of the United States of America. His committee will collaborate with Cabinet committees to prepare for a White House conference next November 29 to December 1. . . . Professor Max Millikan participated in a conference at the American Academy of Arts and Sciences on Pakistan's Third Plan for economic development. . . . Provost Charles H. Townes represented M.I.T. at the inauguration of Gordon W. Blackwell as Furman University's President.

(Continued on page 10)



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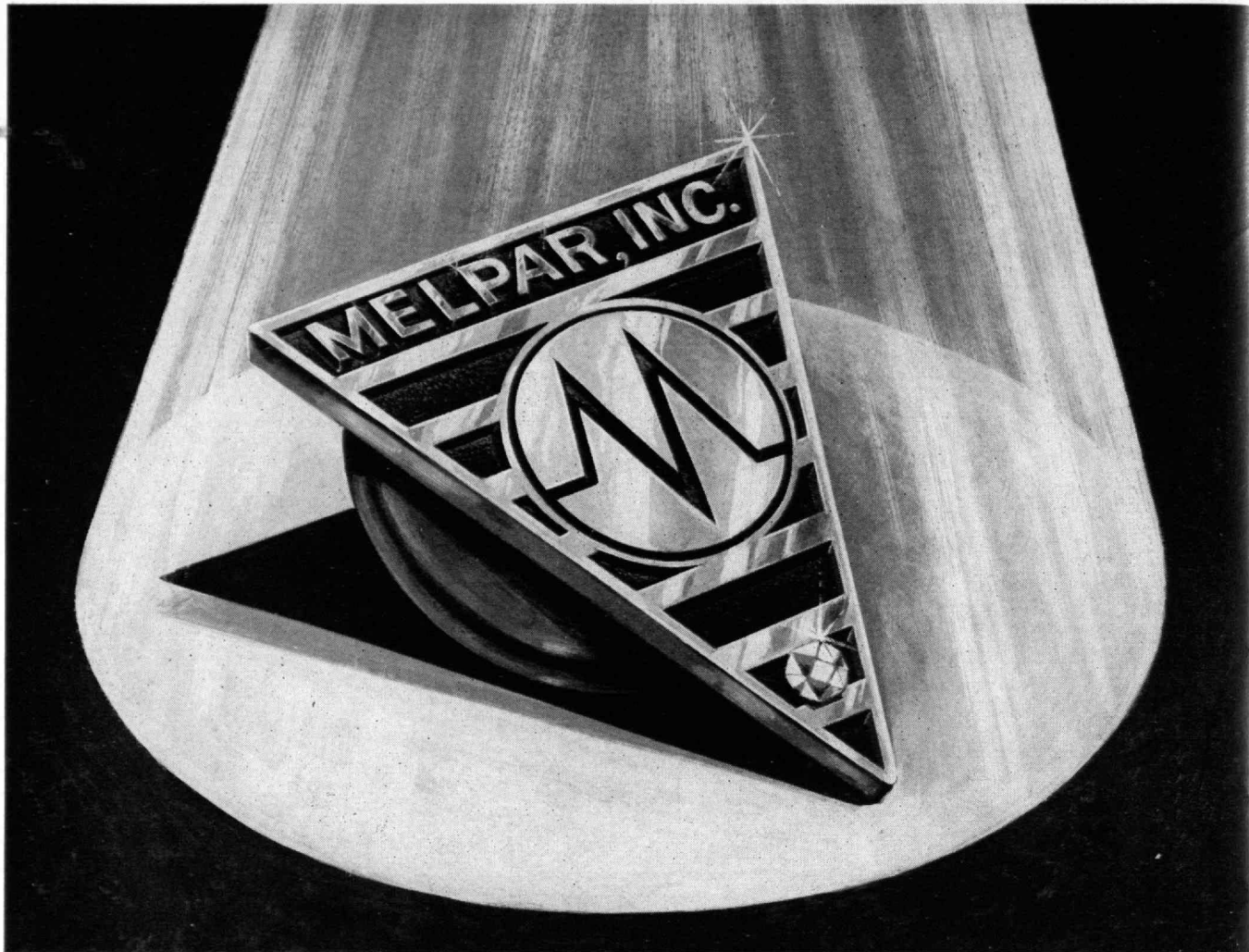
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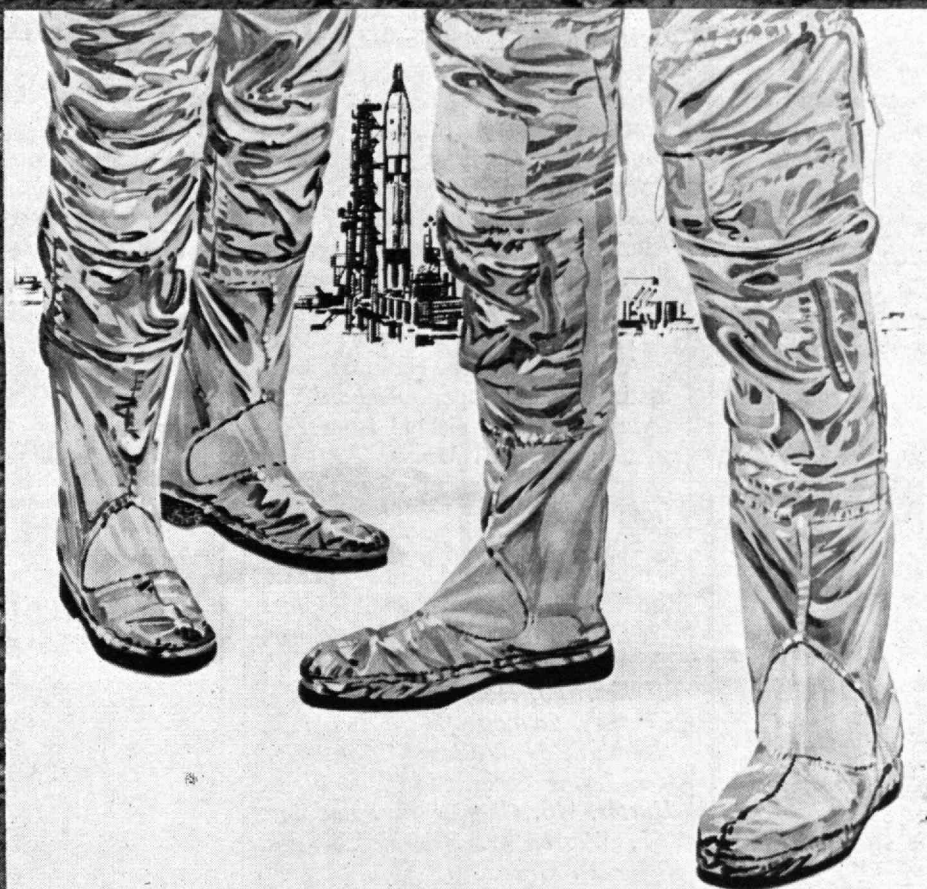


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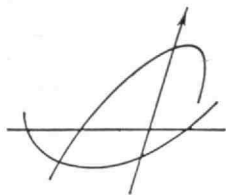
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(Continued from page 6)

New Alumni Officers

IN THIS SPRING'S balloting, members of the M.I.T. Alumni Association elected *Samuel A. Groves*, '34, as President for one year; *Gregory Smith*, '30, as Vice-president for two years, and *Harry E. Essley*, '36, and *Donald A. Hurter*, '46, as Executive Committeemen for two years.

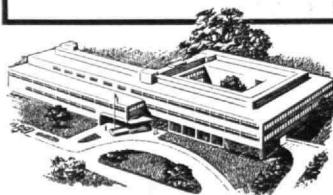
The Association's nominees for Alumni Term Membership on the M.I.T. Corporation were *Alfred E. Perlman*, '23, *Dayton H. Clewell*, '33, and *William S. Brewster*, '39.

As members of the National Nominating Committee, *Richard T. Lyons*, '17, was elected from District 8; *Gerry E. Morse*, '30, from District 9; and *James W. Barton*, '39, from District 10.

For five years as Class Representatives on the Alumni Council, the following were elected: *James M. Driscoll*, '96, *Edward B. Rowe*, '06, *John A. Herlihy*, '11, *Joseph W. Barker*, '16, *Henry R. Kurth*, '21, *Chenery Salmon*, '26, *Edward B. Hubbard*, '31, *William W. Garth, Jr.*, '36, *Irving Stein*, '41, *Donald A. Hurter*, '46, *Charles H. Spaulding*, '51, *Warren G. Briggs*, '56, and *Peter R. Gray*, '61.

(Continued on page 16)

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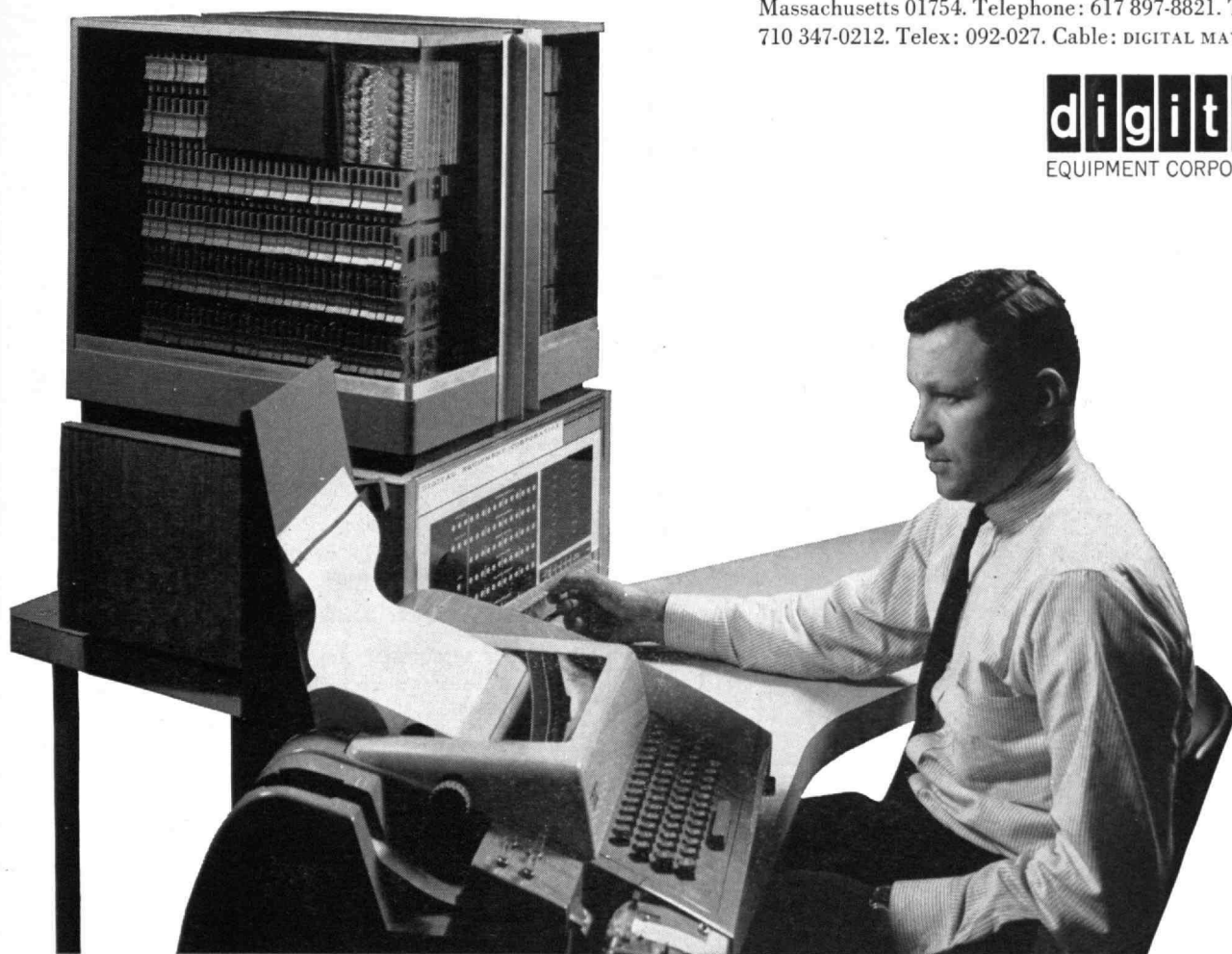
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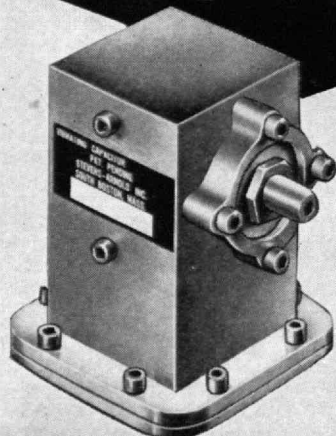
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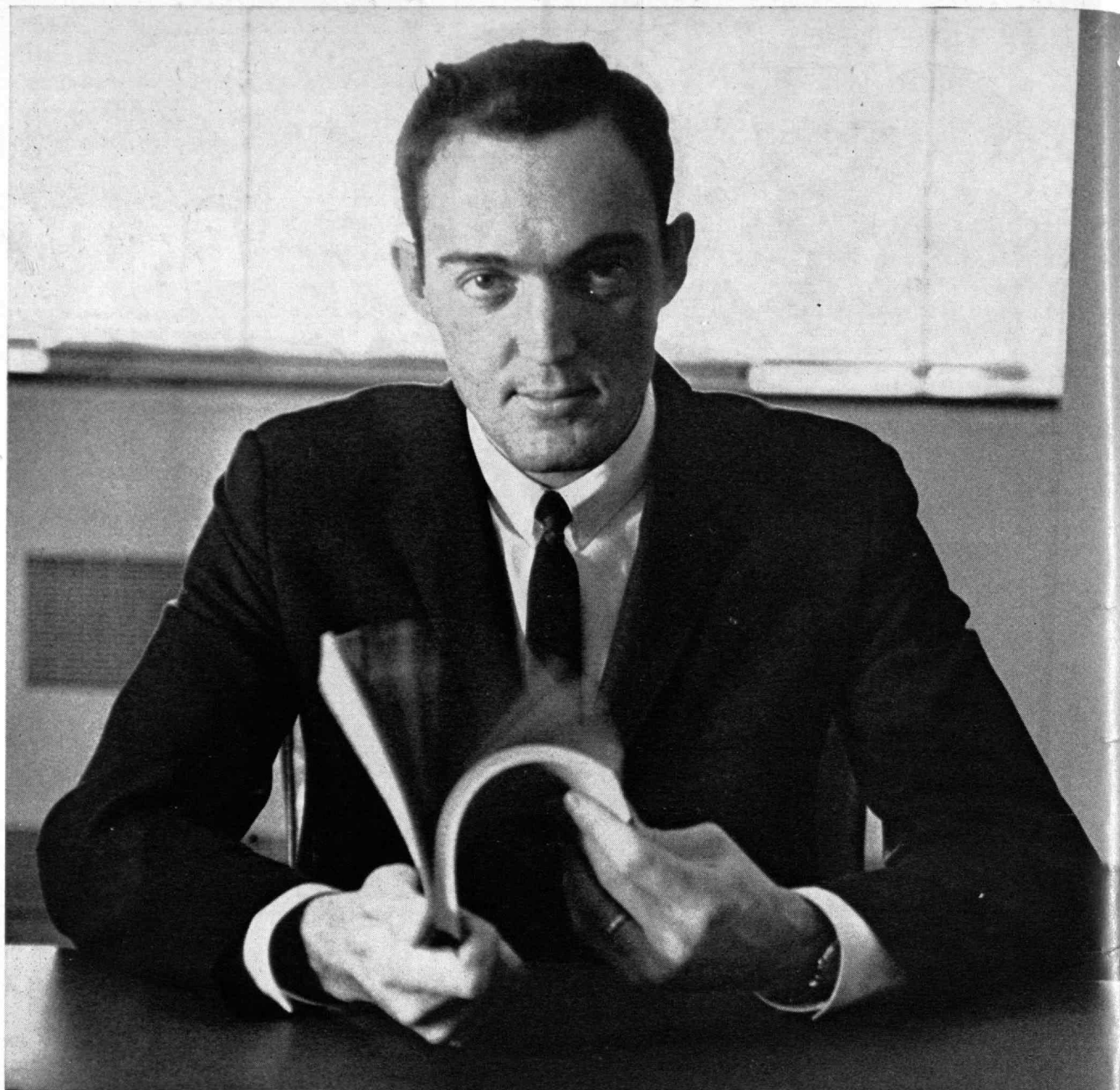
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Individuals Noteworthy

(Continued from page 10)

New Posts

NAMED in the news of promotions, elections, and appointments recently were:

John G. Lee, '21, as Consultant, National Aeronautics and Space Administration . . . *Arthur E. Raymond*, '21, as a Trustee, Research Analysis Corporation . . . *David Graham*, '29, as a Director, The General Fireproofing Company;

Myron T. Smith, '30, as Vice-president—Sales, General Radio Company . . . *C. George Root*, '32, as Chief, Desalination Department, The Kuljian Corporation . . . *Gordon L. Way*, '34, as Vice-President—Engineering, The Hanna Mining Company;

Robert D. Richtmyer, '35, as Professor in the Institute of Computing Science and in the Department of Mathematics, University of Colorado . . . *Duane O. Wood*, '37, as Vice-president, National Aerospace Services Association . . . *Nathaniel I. Korman*, '38, as Chief Engineer,

Graphic Systems Division, Radio Corporation of America;

Frank E. Bothwell, '40, as Director, Center for Naval Analyses, The Franklin Institute . . . *Bernard E. Anderson*, '43, as General Manager, Foxboro (Mass.) Plant, The Foxboro Company . . . *A. J. Kelly, Jr.*, '43, as a Director, Esso Standard Sekiyu K.K.;

Anthony E. Tancreto, '45, as Chief Forecaster, U.S. Weather Bureau, New York Metropolitan Area . . . *Ernest R. Kretzmer*, '46, and *Theodore C. Anderson*, '50, respectively, as Heads, High Speed Data and Error Control Department, and Transmission Measurement Circuits Department, Bell Telephone Laboratories;

Robert J. Nolan, '46, as Vice-president, International Terminal Operating Co. Inc. . . . *Leonard Bezark, Jr.*, '49, as Vice-president—Administration, Profexray Division, Litton Industries . . . *Carroll W. Zabell*, '49, as Member, Advisory Committee on Reactor Safeguards, Atomic Energy Commission;

Stuart D. Shaw, '50, as Director, Plans Development, Mead Johnson

& Company . . . *Richard M. Hill*, '52, as Vice-president, Lovell-Dresel Company, Inc. . . . *Edmund W. Samuel*, '53, and *William B. Houston, Jr.*, '57, as Associate Professors, Antioch College;

Donald G. Brennan, '55, as Member, National Citizens' Commission on International Cooperation . . .

Peter J. Kaufmann, '55, as Manufacturing Manager, Berkeley Division, Beckman Instruments, Inc. . . . *Edward W. Riter*, '55, as Operations Research Analyst, Lackawanna Plant, Bethlehem Steel Corporation;

Alan M. May, '57, as Assistant Vice-president, Bankers Trust Company . . . *James F. Hurley*, '59, as Manager, Atlanta Plant, Dewey and Almy Chemical Division, W. R. Grace & Co. . . . *John H. G. Crispo*, '60, as Director, Centre for Industrial Relations, University of Toronto;

Hans C. Andersen, '62, and *Donald A. Martin*, '62, as Junior Fellows, Harvard University . . . *Alan R. Dobell*, '65, as Assistant Professor of Economics, Harvard University.

(Continued on page 70)

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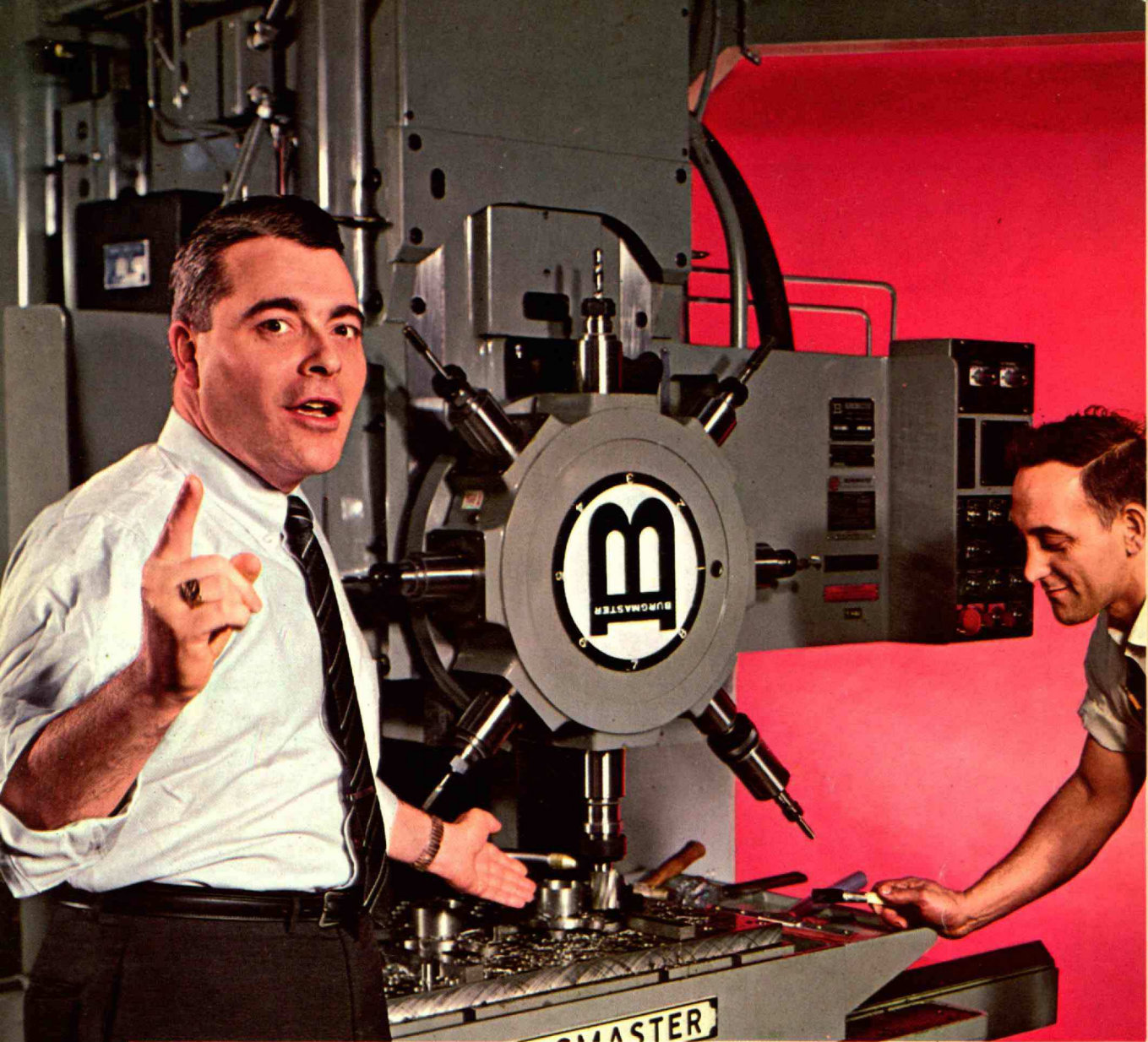


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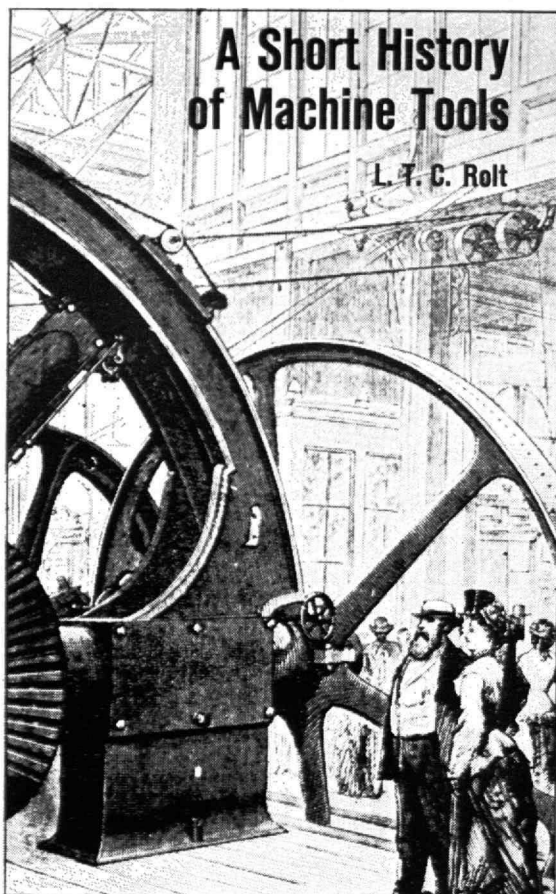
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TIZARD

by Ronald W. Clark

This is a dramatic biography of Sir Henry Tizard, the man who gave radar to the R.A.F. in time for the Battle of Britain. In describing the bitter political infighting that accompanied radar's birth, Ronald Clark unfolds the story of a new kind of *scientific administrator* working in government, and of the involvement of scientists in defense in a radically new way. More than a well-written biography of a dedicated scientist, **TIZARD** is certain to interest those concerned with the newly developed relationship between the scientist, the military leader, and the government official. 488 pages, photographs, \$10.00



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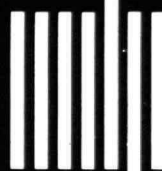
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The Leverage of M.I.T. Abroad

An alumni club in Colombia has catalyzed numerous reactions to hasten their country's progress

By Rodrigo Botero, '56

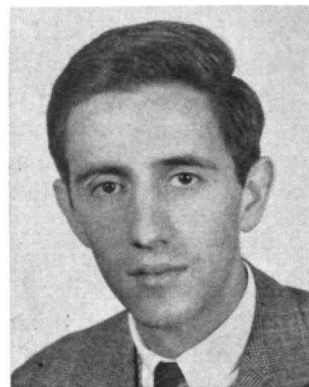
ONE DOES not tend to associate M.I.T. with international relations or with the developing countries except perhaps in the vague sense of linking science and technology with economic development abroad. Yet alongside the impressive and well-known contributions of M.I.T. in many technical fields within the United States, there is a less known but increasing list of projects in other countries where M.I.T. Faculty and Alumni are widening the scope of the Institute's activities.

In Colombia a group of foreign Alumni have managed to combine their loyalty to the alma mater with their commitment to the development and modernization of their native country. Their story illustrates international co-operation at its best, functioning quietly but effectively outside the formalities of official diplomacy.

Colombia is a nation of 15 million, located in the northwest corner of South America. A rugged geography has been a fundamental factor in Colombia's development. As the Andes cross the southern frontier, they split into three parallel mountain ranges that run in a south-north direction thereby making surface transportation extremely difficult, and separating the country into well defined, and until recently, unconnected regions that developed in a self-contained, inner-directed way. Until the advent of air transport, travel between the interior and the coast was measured in weeks, and transport costs all but eliminated the economic advantages of a national market. But regional diversity has spared Colombia the distortion of a macro-cephalic economy with a huge capital city and a stagnant hinterland.

Medellín, Cali, and Barranquilla are economic and political centers with a life of their own that exert a countervailing influence on the capital, and industrialization has taken hold in several centers, spreading and accelerating its modernizing influence much more effectively than one big center could have done. As a unique phenomenon in Latin America, Colombia has four cities with 450,000 or more inhabitants, six cities with

INTRIGUING news has reached Cambridge from Latin America via grapevine. Now Rodrigo Botero, '56, a member of the staff of the Colombian Embassy in Washington, has related developments in his native land. Oscar Horovitz, '22, took the photographs that illustrate Mr. Botero's essay during a visit to Colombia.



200,000 or more, and 14 cities of 100,000 or over. And the mountains have made Colombians air-minded. The first commercial airline in this hemisphere was started in 1919 in Colombia and has grown into AVIANCA, one of the largest and more profitable in Latin America. One of its affiliates operates the largest commercial helicopter fleet in the world with 27 helicopters used for crop spraying, civilian transport, and petroleum operations.

The M.I.T. Club

Thus it is easy to understand why engineering has been and continues to be an important occupation in Colombia. The mountains had to be crossed, bridged, and tunneled, and the streams dammed and harnessed for electric power. As a matter of highest priority Colombians had to learn how to master their beautiful surroundings before any hope of launching a modern society could be entertained. The importance of technology did not have to be demonstrated; it was as self-evident as the mountains. Although engineering schools were operating in Colombia by the second half of the 19th Century, a handful of Colombians began to travel abroad for their education. Among them was the first Colombian M.I.T. graduate, Jorge Pena Polo, '18, in civil engineering. There were only three Colombians at M.I.T. during the whole of the 1920's and 12 during the 1930's.

But the number increased to 26 during the 1940's and to more than 50 during the 1950's. For the last 10 years there has been an average of 20 Colombian students at M.I.T., a kind of permanent revolving fund that renews itself with new arrivals each year to compensate for those who return to Colombia.

In 1956 a Colombian student group at M.I.T. decided it was time to set up an Alumni Club in Colombia, to bring together the 100 or more graduates and maintain contact with the Institute. The idea was well received by the older Alumni and in July, 1957, the first meeting of the M.I.T. Club of Colombia took place in Bogotá. Its first president was Alberto Loboguerrero, '23. He was succeeded by Virgilio Barco, '43, and Rodrigo Uribe, '41.

Activities of the Club

Aside from the usual functions of maintaining a professional and social link among the Alumni, the M.I.T. Club of Colombia has emphasized from the very beginning the improvement of scientific and technological education in Colombia, as well as maintenance of close contacts with the Institute.

The club has had many distinguished visitors from M.I.T., among the most recent being President and Mrs. Stratton, in August, 1964. Other members of the Faculty who have visited the Colombian Alumni include Max Millikan, of the Center for International Studies; Professor Everett Hagen, who did research in Colombia for his book, *On the Theory of Social*

Change; the late Dean Harold Lobdell, '17, Professors Charles Myers, John Biggs, '41, Fred McGarry, '50, Charles Miller, '51, Peter Eagleson, '56, Charles Savage, Dean Howard Johnson of the Sloan School of Management, and Professors Carroll Wilson, '32, Edwin Kuh, and William Pounds.

The club also has helped worthy Colombian candidates who want to study at M.I.T., sometimes with financial assistance and sometimes with pertinent information as to requisites for admission. The most important programs the club has participated in are in the fields of education. They are the Physics Program, the Civil Engineering Program, and the Management Training Programs.

The Physics Program

As a contribution to the teaching of physics at the secondary level, the M.I.T. Club undertook the translation into Spanish of the physics textbook prepared by the Physical Science Study Committee under the direction of Professor Jerrold R. Zacharias. Translating and publishing this book turned out to be a major undertaking, which was successful thanks to the drive of Alberto Ospina, '58. A handsome Spanish edition has been published by Libreria Bedout of Medellín, and will benefit not only Colombian high school students but those of other Spanish-speaking countries as well.

The project is not over by any means. A series of seminars has been organized for physics teachers to familiarize them with the book, the laboratory guides

How Engineers Work Together on a Problem in Venezuela

TANKERS carrying oil from Venezuela's Maracaibo fields use a channel through the Straits of Maracaibo and the shallow Bay of Tablazo to the Gulf of Venezuela. In the 1950's the world's largest dredge ship deepened the channel to 45 feet. Since then the Instituto Nacional de Canalizaciones (INC) has found expensive dredging necessary to maintain it.

No one knows precisely where the Maracaibo silt comes from, why it deposits where it does, or how the salt water intruding into the lake from the Gulf of Venezuela can be controlled. The salinity has been virtually doubled at some points in the lake and is a matter of concern both to the oil companies and fishermen.

As part of the M.I.T. Department of Civil Engineering's Inter-American Program (supported by the Carnegie Foundation and the U.S. State Department's Agency for International Development), professors and students from M.I.T. and the University of Zulia at Maracaibo are now teamed with INC engineers studying the matter. Professor Arthur T. Ippen initiated this study and Associate Professor John F. Kennedy and Emmanuel Partheniades, Assistant Professor, are directing it for M.I.T.

Professor Partheniades and two graduate students, Richard P. Hoyer and Robert J. Etter, joined engineers making field investigations and air surveys in Venezuela last summer. Their preliminary data suggest that silt from the Gulf is moved up the channel by strong underwater salinity currents. Further work is planned this summer, perhaps with a dye perceptible only to special instruments, in an effort to determine the flow pattern.

One remedy might be a retractable underwater dike across the channel at the mouth of the Bay of Tablazo. Closed during the in-going tide, it might retard the silt-bearing underwater currents. Then, if it were opened during the out-going tide, the currents might flush out the channel. Professors Kennedy and Partheniades both emphasize, however, that considerable additional research, both in the field and in the laboratory, will be needed before sound explanations and solutions to the problem can be offered.

Since returning to Cambridge last fall, Hoyer and Etter have developed a laboratory device for studying erosional and depositional sedimentation rates for tiny particles, similar to those in Maracaibo, as part of their thesis research for master's degrees.

and the new approach to the subject in the high schools.

An Inter-American Physics Institute is being organized in Colombia for the training of physics instructors in the new method of teaching, with participants from Central America and Venezuela. These trainees will in turn organize seminars in their countries in order to generalize the adoption of the textbook. This program has had the backing of the Ford Foundation, the National Science Foundation, the Panamerican Union, and a number of Colombian institutions.

As a result of this experience with the physics translation, the M.I.T. Club is considering the creation of a technical translation service in Colombia that would translate into Spanish and widely distribute books and publications of interest in certain scientific and technical fields.

The Civil Engineering Program

In 1961 the Department of Civil Engineering at M.I.T. was seriously considering the possibility of launching an international teaching and research program to acquaint its students and staff with conditions and problems of the developing countries. The M.I.T. Club invited Professors McGarry and Biggs to visit Colombia and establish contact with civil engineering faculties there. They liked what they saw and in January, 1962, the Inter-American Program in Civil Engineering was announced.

One of the projects has been connected with the setting up of a computer research center at the University of the Andes in Bogotá and its operation in the solution of civil engineering problems. Another project was launched in Medellín, for hydrological research, in co-operation with the School of Mines and the Municipal Utilities, under the direction of Professor Eagleson. Professor Savage has studied social and organizational responses to technological change in Medellín and elsewhere.

A project on housing problems in Latin America under the direction of Professor Albert Dietz, '32, is under way at M.I.T. The club assisted Professor Dietz on his Colombian field trip, and a Colombian student has been connected with the project in Cambridge.

Management Training Programs

As the pace of economic development has quickened, the need for trained managers in ever increasing numbers has become obvious both in the private and in the public sectors. The insufficient supply is clearly a bottleneck in the development process. When the M.I.T. Club looked into this problem, it received ample support and encouragement from the Colombian academic and business communities.

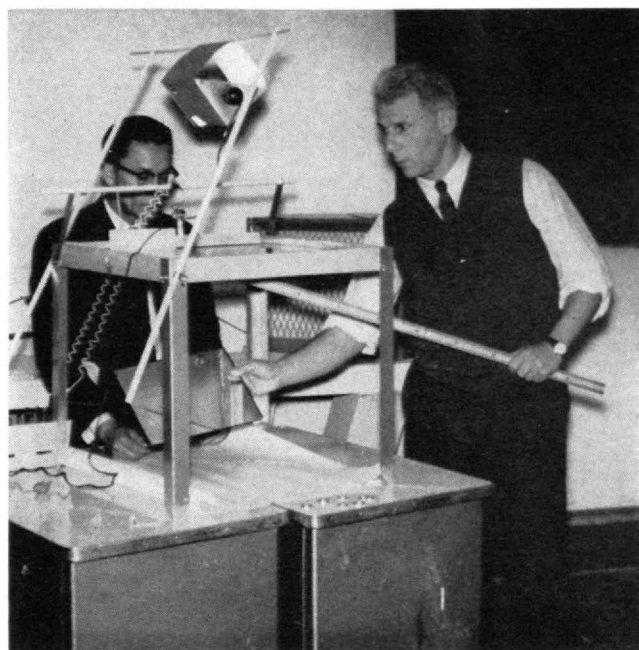
Our first step was to invite Dean Johnson of the Sloan School of Management to visit Colombia. He made a week-long trip late in 1963 with Professors Pounds and Kuh. This first visit, conducted at whirlwind speed with a schedule that started as early as seven in the morning



Latin American college teachers hear about PSSC physics program promoted by M.I.T. Alumni in Colombia . . .

and seldom ended before midnight, covered a lot of territory: Bogotá, Medellín, and Cali on business, and a brief weekend in Cartagena for summing up and relaxation. Dean Johnson and his colleagues established contact with Colombian groups and institutions concerned with management training: the University of the Andes in Bogotá, the University of Valle in Cali, the School of Administration and Finance in Medellín, the business community, the national management association and, of course, the M.I.T. Club chapters in the various cities. The M.I.T. team gathered first-hand impressions about Colombia that made it attractive for a joint program: the pace of development was quickening, several efforts were being launched in the management field independent of each other that could be co-ordinated, there was a large group of Alumni, and the tremendous reputation of M.I.T. placed it in a unique position of influence. Dean Johnson and Professors Wilson and Pounds returned to Colombia in April, 1964, for fur-

(Continued on page 56)



. . . and watch demonstration of ripple-tank teaching device.

The Kanpur Indo-American Program

American universities are helping to develop a modern capstone for engineering education in India

By Norman C. Dahl, '52, Professor of Mechanical Engineering at M.I.T.

PROFESSOR DAHL spent two academic years in India, as Program Leader of the Kanpur Indo-American Program. This is a group effort in which nine American universities are assisting in the development of an Indian Institute of Technology. In addition to M.I.T., they are the California Institute of Technology, Carnegie Institute

of Technology, Princeton University, the University of Michigan, the University of California, Purdue University, Ohio State University, and the Case Institute of Technology. The U.S. Agency for International Development is providing funds and Educational Services Incorporated is administering the program.

THE INDIAN Institute of Technology, Kanpur (IIT/Kanpur) is one of five national institutes of technology that the government of India is developing. They are expected to become major centers for the education of engineers and scientists, both undergraduate and graduate, and for research in engineering and science. These institutes are to be the capstones for a system of technological education in which more than 100 colleges give undergraduate education in engineering.

At Kanpur a consortium of nine American universities is assisting. The Kanpur Indo-American Program is providing personnel from this country, offering on-the-job experience to members of the Kanpur faculty in the consortium institutions, and making dollar funds available for procurement of equipment, materials, and books not available within India. The program's staff in Kanpur at present numbers 28: 19 faculty members, a librarian, two graduate students, an architectural consultant, two technicians, an administrative officer, and two short-term experts on equipment.

A steering committee, composed of a faculty representative from each of the nine institutions in the American consortium and a representative of Educational Services Incorporated, is responsible for determining policy and recruiting faculty from members of the consortium. The M.I.T. group now at Kanpur consists of Professor Holt Ashley (Aeronautics and Astronautics), Associate Professor W. F. Schreiber (Electrical Engineering), Assistant Professor A. J. Erickson, '51 (Mechanical Engineering), and Donald N. Graham, '61, a graduate student doing doctoral research under Professor Schreiber.

The pattern of education evolving at IIT/Kanpur strongly reflects the lines along which American technological institutions are developing. Science, humanities, and social science activities interact with parallel engineering programs. The pattern differs, nevertheless, because of India's cultural traditions and educational needs. The primary engineering educational need there

is for "problem-recognizing" and "problem-solving" graduates who will have the confidence, inclination, and training to do something about India's problems.

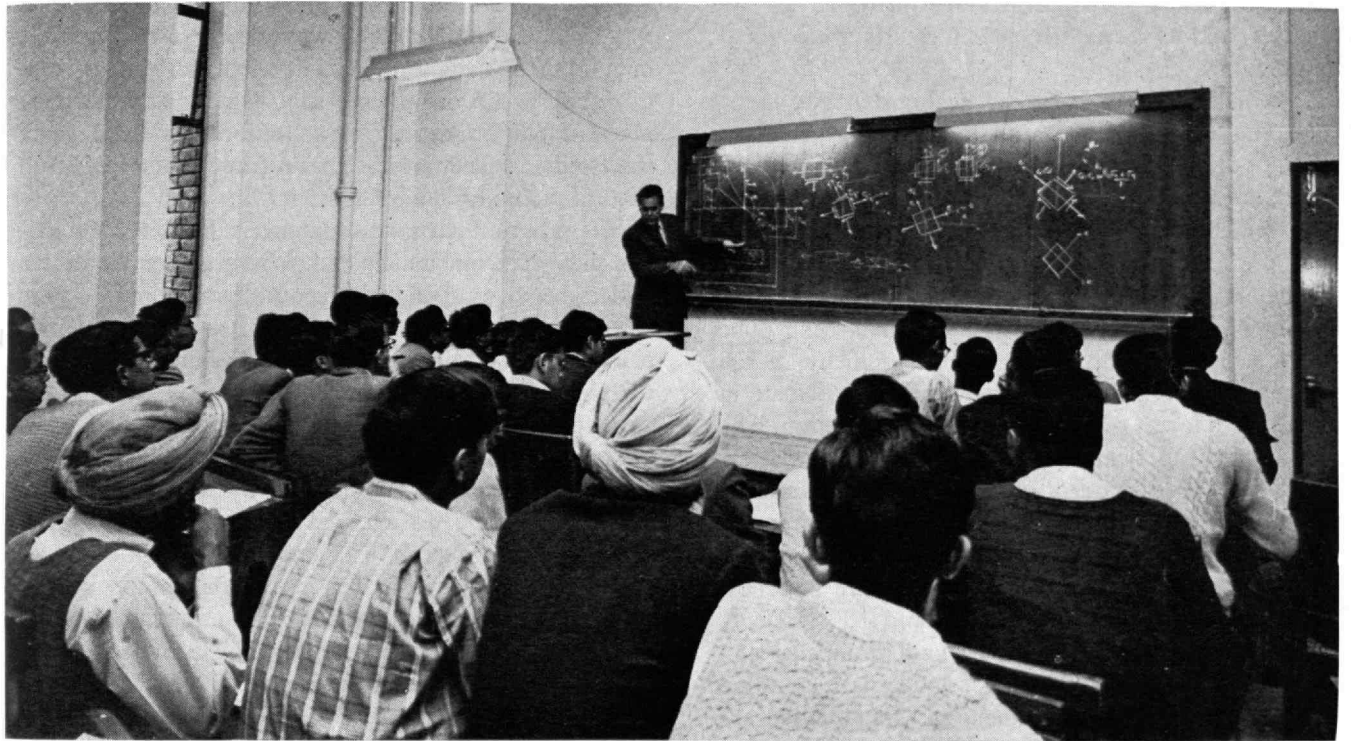
IIT/Kanpur is seeking academic and research standards of recognized international quality, not for the sake of international recognition, but rather because this level of quality is necessary for it to play its assigned role in the development of India. The problems that India faces require no less engineering, scientific, and social insight than many of the problems encountered by more developed countries. IIT/Kanpur's academic and research program is being built upon this premise.

Five-year undergraduate degree programs are now offered in aeronautical, chemical, civil, electrical, mechanical, and metallurgical engineering. Research and graduate study in these fields and also in chemistry, mathematics, physics, and some areas of social science and humanities are under way.

The undergraduate programs consist of a three-year common core followed by two years of concentration in one field of engineering. There is strong emphasis on experimental investigation and the technical arts needed in such work. The Indian students' prior experience and environmental background differ from those of American students and much must still be learned about how to make this vital part of the program effective. About one-seventh of the undergraduate curriculum is in the humanities and social sciences. Courses are taught at levels comparable to those in the consortium institutions.

Kanpur admitted its first class in 1960 and will graduate that class this year. The experience gained thus far has pointed the way toward improvements in various aspects of the undergraduate program; evaluating it and evolving improvements will be a valuable learning process for the entire faculty. Sound traditions need to be established in laboratory instruction, in lecture demonstrations, and in the use of visual and other teaching aids. Experience in these critical areas is gained slowly and easily dissipated. To attain IIT/Kanpur's goal, both

The author is shown (at right) conferring with Dr. P. K. Kelkar, the Director of IIT/Kanpur, and (below) teaching a class in solid mechanics. Kanpur is on the Ganges about 300 miles from New Delhi.



Classrooms and laboratories have risen fast in Kanpur. Dormitories (below) similar to those in this country will make the institute an all-residential school. Similar

institutes near Calcutta, New Delhi, Bombay, and Madras have been aided, respectively, by the U.S. and UNESCO, Great Britain, the U.S.S.R., and West Germany.



the Indian and American faculty must sustain a major effort for the next few years to solve undergraduate educational problems.

Graduate instruction began this year in all departments; many have master's programs and some have doctoral candidates. The emphasis on graduate study and research will grow as the American faculty works with Indian colleagues to make this work pertinent and productive. Funds for equipment are available to make the opportunities in research good by American standards in many areas and far above average in India. To make effective use of these opportunities, however, the Institute must further develop its administrative and service capabilities, and procedures and staffing arrangements new to the Indian scene are needed. Progress is being made.

The Indian faculty has been built up in the last three years from about 30 to more than 100. It is now clear that Kanpur can attract the 250 well-qualified faculty members who will be needed. This is a great relief since a first-rate faculty is the cornerstone on which all else must rest, and its recruitment was formerly a mere article of faith.

Most institutions in India are having difficulty filling posts. The leadership of Dr. P. K. Kelkar, Director of IIT/Kanpur, however, is proving attractive to Indians with experience outside of India. Rupee salaries about equal to the dollar salaries that first-class American universities pay to good men have brought many Indians back to India. Their return has added vitally needed, competent manpower to the Indian educational scene. The Kanpur scheme also has given heart to many of the younger Indian scholars who are eager to participate in the needed reforms of Indian university education. The Kanpur Indo-American Program has provided a powerful assist in the recruitment of new faculty, the development of a new structure, and the assemblage of equipment for laboratory and research work.

Student enrollment has increased steadily and now stands at about 800 undergraduates and 100 graduate students; the plans call for 1500 undergraduates and 500 graduate students. The undergraduates, admitted on the basis of a national competitive examination, are intelligent and eager, but more discriminating selection procedures are needed.

The campus is a 1200-acre tract in a village about six miles outside of the city, and the institute is to be wholly residential. About one third of the planned building has been completed and a second third is authorized. An architectural consultant is working on site with the Indian architects interpreting the needs of the institute's faculty. The campus promises to provide an attractive environment but those now there must contend with the usual problems of a community being created *de novo* as well as some problems peculiar to the local situation.

More than three million dollars has been expended on equipment. Items from the United States are ordered at the initiative of Indian faculty members but with the advice of American colleagues. One of the major items is an IBM 1620 computer with auxiliary equipment in-

cluding magnetic tape units. Kanpur is now the most active computer center in India and much of the initiative is in Indian hands. The first unit of a 7044 system, made available for rupee payment at an educational discount by the IBM World Trade Corporation, will arrive this year. This will make IIT/Kanpur even more of a center both for Indian engineering and scientific research, and for study of some of the large systems problems that face the Planning Commission and other government ministries.

Textbooks not available in India have been purchased in the United States and sold to students at subsidized prices roughly equivalent to what they would cost if reprinted in India under an existing U.S.-Indian publishing program. Books found suitable for texts there will be recommended for reprinting in India. This has brought about a decrease in class contact hours and a corresponding increase in self-study and homework, which is increasing the students' initiative and self-reliance.

The Purdue Library has assisted greatly in building up a library collection. When Purdue buys a book in a field in which Kanpur is working, a second copy is bought at the same time, catalogued, and sent to Kanpur. Purdue also has helped IIT/Kanpur find and purchase retrospective journal collections. In three years the Kanpur collection has grown from about 15,000 to 50,000 volumes.

The program has involved Americans there in activities that were not anticipated. Wives of some of them joined the wives of Indian professors and administrators last summer in starting a school for the children of all campus residents. Americans also became involved in the planning and, as it turned out, the supervision of the construction of an airfield on campus for the flight-testing program that is an important part of the aeronautical engineering program in line with the IIT/Kanpur aim to produce graduates who are oriented towards "problem recognizing" and "problem solving."

The American universities in the consortium, Educational Services Incorporated, the government of India, the U.S. government, and especially the Indian faculty and administration at Kanpur can take pride in what has been accomplished.

Much remains to be done, but the prospects are excellent because progress has been made in a complex cross-cultural situation where progress is often difficult and sometimes impossible.

Of the 50 or so Americans who have been or are now resident at Kanpur, no single institution has provided less than four nor more than seven. Five M.I.T. Faculty members have gone to Kanpur. Professor R. L. Halfman, '44 (Aeronautics and Astronautics) and the writer have returned, three are there now, and Professor L. D. Smullin, '39 (Electrical Engineering) and Dr. L. A. Shepard (Metallurgy) are scheduled to go to Kanpur during the coming academic year.

The program is scheduled to continue until 1972. It is hoped that IIT/Kanpur then will be fully self-sustaining and a significant factor in Indian educational and national development.

The Culture Gap in Kakamega

Very confused schoolboys are striving to pass examinations written in and for another world

By Henry Hamburger, '61

THE SUPERFICIAL environment at many Kenya high schools is surprisingly similar to what one finds in the States. Behind the modern concrete buildings, collared shirts, and painstakingly enunciated English sentences, however, stands a very confused schoolboy stranded between two cultures, as out of place at a circumcision ceremony as at a performance of *My Fair Lady*. This dilemma is in large part a natural outgrowth of a very difficult transition period.

Educational ideas in the wind in Kenya are much like other things which leave the ground. If they are hurled skyward with too little thrust they fall to earth—in Kenya they fall on the hard rocks of the University of Cambridge Examination Syndicate. And just as man-made projectiles have broken free of the earth, so will Kenyan education some day break away from its foreign examination board. Meanwhile, however, the principal objective of the secondary student here is not to understand himself, his society, his past, or the world at large, but to pass "the Cambridge," a battery of tests which conclude his high school career.

These examinations set an internationally recognized standard and success in them is the passport to good jobs and higher education at home and abroad. While it is possible, by careful appraisal of past exams, to discover the topics and types of questions favored by the examiners and to learn techniques for answering them, a high grade is indicative of at least fairly good understanding and the ability to apply the material examined.

Some of the arguments for and against this particular examination system are applicable to any system of student evaluation, but one criticism is unique: The Cambridge exams are written in England, by Englishmen, for English-speaking people. The secondary students of Kenya speak English, but they are *not* English, so that while a sequence of ideas may be logically connected in their minds, the whole sequence sometimes has no connection with reality for them.

A classic example is the way the Kenyan student learns about ice. Long before he reaches high school a geography teacher tells him about the seasons—not so much about his own dry and rainy seasons as about summer and winter. He learns that in winter the sun's rays strike Europe at an angle so that it is cold and lakes are covered with ice. In high school he learns



MR. HAMBURGER teaches in a secondary school a mile outside Kakamega for the U.S. State Department. He has a master's degree in mathematics, earned at the University of Minnesota after graduating from M.I.T., and expects to begin work for a doctorate next fall.

that this ice on European lakes can be mixed with water in a metal cup and he is taught to compute the resulting temperature of such a system.

If at this stage the teacher is resourceful enough to obtain some ice and bring it to school, the class has an exciting new experience. As the ice is brought in, the student watches expectantly from his seat. Then he comes forward, reaches out, and for the first time in his life holds ice in his hand. "Eh-h-h," he exclaims, "it is cold!" Why certainly it is cold. Why does he seem so surprised? Surely he has been told it would be cold. How cold? Why, exactly 32 degrees F. And how cold is that? Colder than *anything in his previous experience*, and thus outside his true understanding until the first touch.

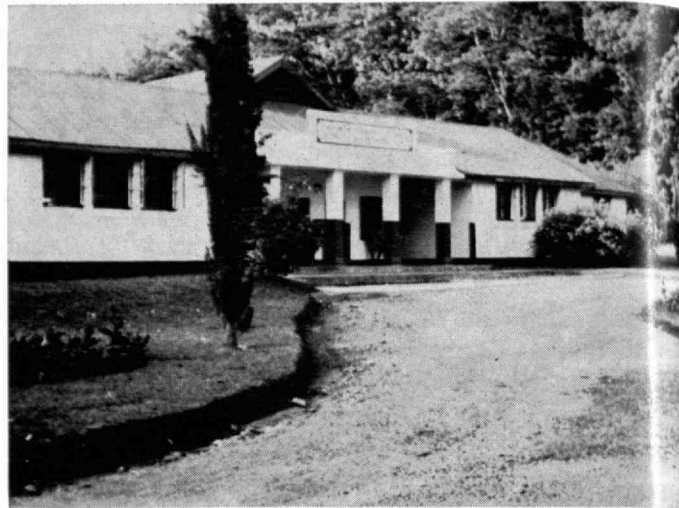
In English literature the student has more difficulty; he is continually faced by such a welter of new words, expressions, manners of speech, ideas, experiences, and patterns of behavior that he hardly knows where to begin. Here he comes up against the reinforced barrier of foreign language underlaid with foreign culture.

A rough idea of the nature of the problem, though not its magnitude, can be gained by considering the American high school student reading his first Victorian novel. The origins and significance of wealth and social class are a bit strange at first, but they can be related with some effort to personal experience. The facial expressions, activities, and material objects which are described are more or less familiar. Now assume that an African and an American schoolboy are confronted with a description of an English gentleman who is "rather inclined to an excess of billiards." The American may not understand whether billiards is generally the pastime of the knave or the noble, but he knows pretty well what the game is about. The African, on the other hand, may skip that sentence and have a try at figuring out the next one, consult a dictionary, or make a tentative guess as to whether a "billiard" is a game, a food, or a loose lady. Any of these procedures will do occasionally, but none is satisfactory if every third sentence presents a similar problem.

Understanding the simple meaning, however, is only the beginning. Of the many facets of a novel which may transcend its value as a narrative, the most interesting to the young student is often its humor. When Mark Twain's *Celebrated Jumping Frog of Calaveras County* was translated into French, he complained about the evident injustice of trying to render "I don't see no p'int about that frog that's better'n any other," in the Gallic idiom. But while humor may lose something in *language* translation, it is likely to lose everything in *culture* translation.

This is painfully evident to one who, like myself, has taught in his own country. One of the fastest and most effective ways to establish a sympathetic understanding is with a good laugh which teacher and student can enjoy together. In my American classroom, I could tell with reasonable accuracy what would get a response and what would not. Here, not only did my early attempts at wry comments fall flat, but certain incidents, which had previously meant nothing to me, appeared to be sources of great merriment.

In the early years of high school the difficulty of imparting humor can be ludicrous. After about a month of discussing simple machines with first-year students, I had convinced most of them that even though a machine enables a small force to move a large load, the work accomplished by the machine is no greater than the work put into it. "Work," I summarized with a grin, "is not obtained for nothing." I wrote the statement on the blackboard and jotted beneath it, "and life is not easy." A hand went up in the back of the room. "But sir," came the earnest, knowledge-seeking voice, "what does 'life is not easy' mean?"



The sign says "Kakamega Secondary School 1932 Kakamega." The students wear collared shirts . . .

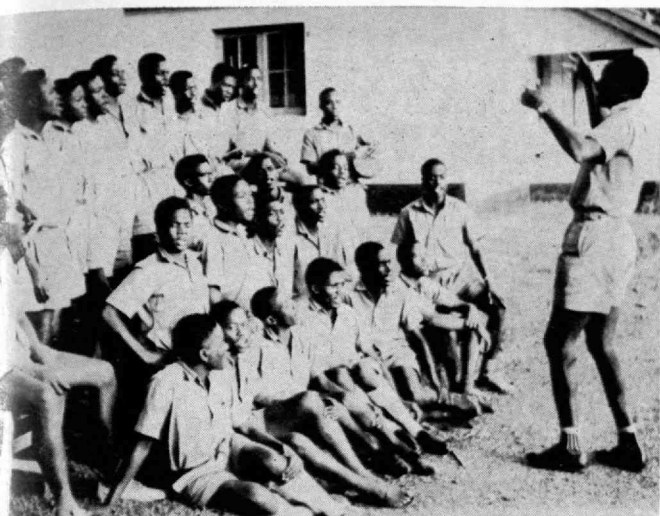
For the young Kenyan studying for his Cambridge exam life is, indeed, not easy, and it may well be asked whether every secondary student must be subjected to the difficult process of absorbing a foreign culture. If he has difficulty enjoying the English literature to which he directs much of his attention, can we assume that he is compensated by being bi-cultural? Perhaps. But a maturity based on an understanding of the common features of two diverse cultures will not emerge in a boy who is unable to participate fully in *either* culture. Bi-culturality must not be confused with "bi-alienation."

Two Homes, Two Languages

Several incidents suggest that secondary school not only produces confusion about Western culture but also creates ambivalent attitudes toward home and community. One of the boys told me that his maternal uncle—a very close relative who has financed his entire education—had asked him to take over the circumcision duties for his community upon completion of high school. The boy has refused and is now unwelcome in his uncle's home.

I witnessed another example of this alienation during a community baptism ceremony a few miles from the school. The participants were mostly children, but all their parents, friends, and relatives were there. While we were waiting for the preacher to arrive, there was a good deal of religious singing and dancing. The baptism itself was a total immersion ceremony among the reeds of a shallow pond. After the service all the younger children, who were not old enough to be baptized and had been sitting patiently in the hot sun, engaged in some total immersion for nonreligious purposes. The entire morning was very colorful to an outsider.

One of the other guests, a free-lance journalist, lost no time in setting up his camera. Some of the rest of us, however, were not sure how polite this would be—until we saw our schoolboy host take out his own camera, and, in the best tourist tradition, start taking pictures of



... and singers prefer this to traditional informal grouping. Their leader will soon be in a university.

these curious unenlightened folk, who just happened to be his neighbors.

This emotional detachment from home life caused by exposure to different ideas is intensified by actual physical separation. Almost all high schools are boarding schools. It is imperative that they be so, since lack of electric lights and the presence of many small children and other distractions make home study virtually impossible. The appalling record in Cambridge exams of some day schools bears this out. Thus at the age of 14, 15, or 16 a boy leaves home physically as well as mentally.

The separation is not complete, since the student goes home for vacations. Then, however, he may find a minor language barrier developing there, too. The vernacular language is used in elementary schools in rural areas, but children who live near towns where there are two or more tribes may learn in a foreign language medium (Swahili, the *lingua franca*) starting in first grade. All students switch to English in fifth grade.

One young man told me that when speaking about his father's farm and the objects of his childhood, he would be most comfortable in his native language, but the ideas he learned in school could be best expressed in English. If he wants to discuss his future education his thought processes are in English, but if he is to tell his family about his plans he must mentally translate imperfect English into imperfect vernacular—a procedure which is not very conducive to a relaxed family relationship.

Is this situation unavoidable? Can we perhaps help the boys to bridge the gap between home and school by finding those aspects of the traditional culture which can be introduced and developed within the modern framework of the school?

An obvious potential area for such a project is traditional music. When I arrived at Kakamega there was an English violinist on the staff, and his music appreciation society invariably packed his living room for classical music. To complement this group I organized

a "music-making" club to encourage members both to make and play indigenous instruments. The Baluhya tribe to which two-thirds of these young men belong is one of the most musical in East Africa. A seven-stringed plucked instrument called the *litungu*, a kind of one-stringed violin, and a variety of drums are widespread, while maracas, reed flutes, and several other instruments are in more localized use.

The Old Music

My wife and I discovered our first *litungu*-player strolling along the road near our school, entertaining himself and a few friends. After a short concert, he agreed to be the first guest-performer and guest-lecturer to the music-making club. A week before he arrived, I mentioned to the members that I had seen a musician, described the instrument, and asked if any of them had seen anything like it or perhaps knew how to play it. At first there was no answer. Then there came a ripple of laughter, a good deal of whispering and a bit of foot-shuffling, but still no verbal response. Only after putting the question to some of the older individuals rather than to the whole group was I informed that, yes, they had seen such things but, no, they did not know how to make or play them.

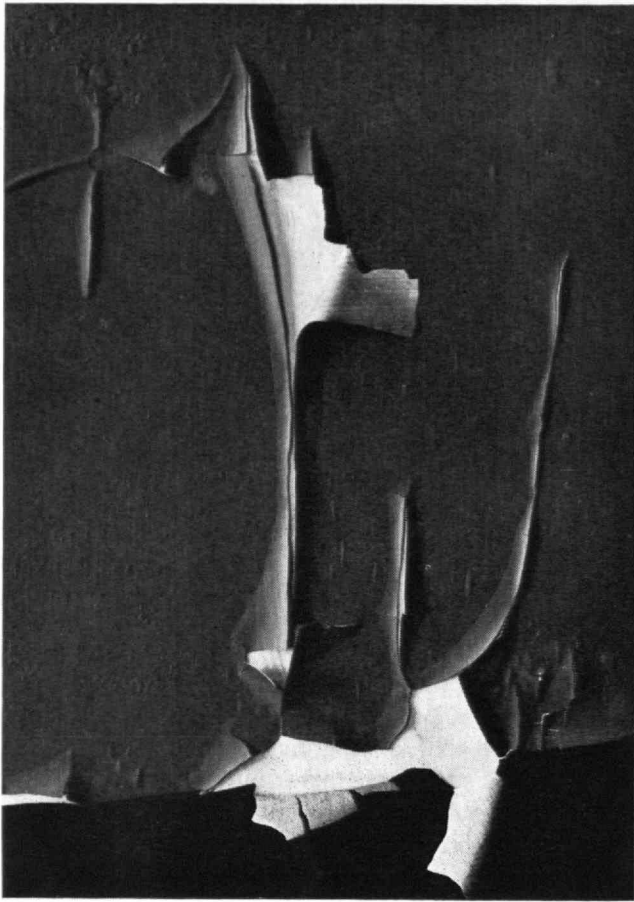
This reluctant, somewhat amused response to the mention of their traditional culture was puzzling and a bit disturbing. At first I feared I had said something which bespoke ignorance or disrespect. Over the next few months, however, similar experiences convinced me that the laughter was largely a cover for embarrassment. To the extent that there was real laughter, the source of humor was that a Westerner should be interested in such an uncivilized profession as *litungu*-playing.

Without presuming to condemn or praise the entire colonial and missionary operations, one can safely say that neither of these influences was, on the whole, helpful in maintaining the African's respect for his traditional music. Some missionaries went so far as to try to eliminate indigenous instruments altogether. Most colonists were a bit more subtle, merely sowing a general contempt for the African tradition.

Perhaps, then, it is natural for the new generation to turn its back on the old music and all that goes with it. As far back as they can remember, these students have seen the educated Westerner looking down on the traditionalist African. Now *they* are the educated and to gain security in their new superior position, they look for something to be superior *to*, and the handiest, most familiar object of derision is their own tradition. They cannot deride it strongly, of course, for it is a part of them—it is what their parents are made of—and thus it gives rise to very discomforting ambivalent feelings.

Our *litungu*-player arrived in due course and there was better-than-average attendance at the club that day. The uneducated old school custodian stopped by

(Concluded on page 64)



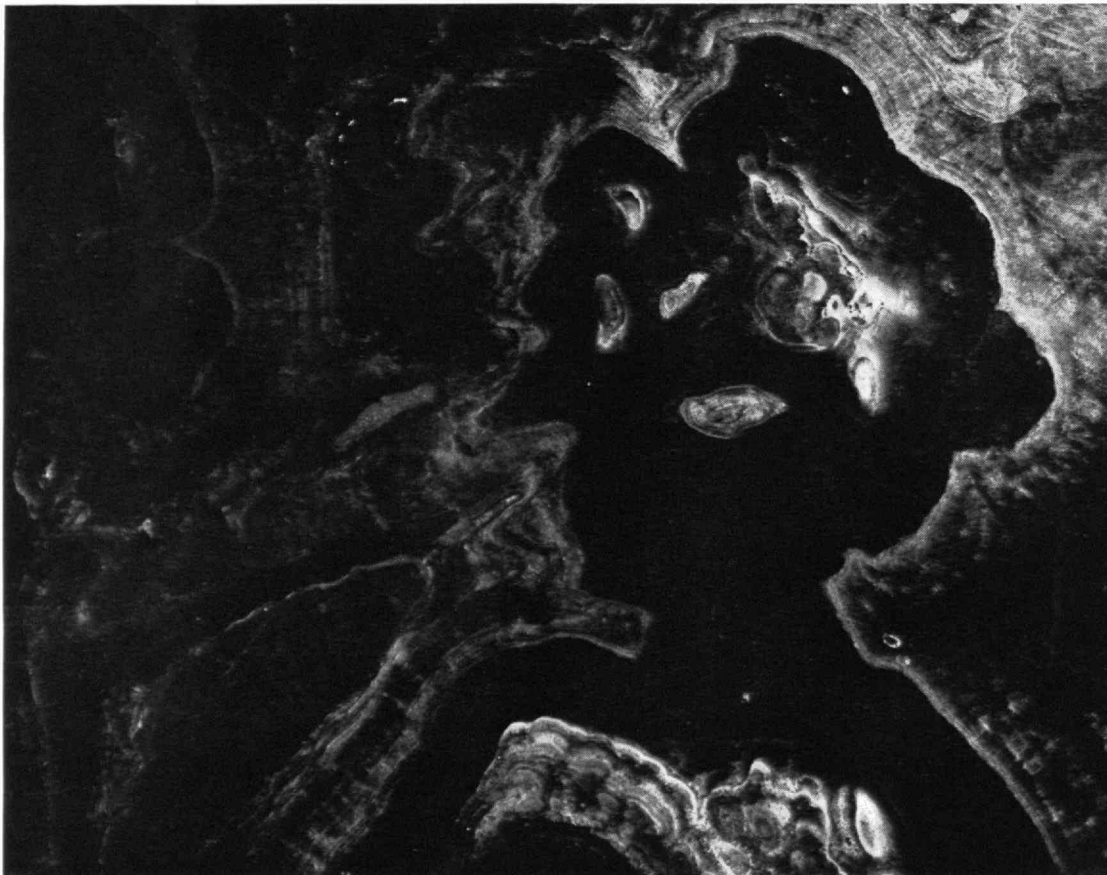
Peeled Paint, 1959, Minor White

Exhibition 1

On the Campus

Works of Boston photographers to be on view in initial showing at new photography center

CREATIVE PHOTOGRAPHY has become part of M.I.T.'s extensive program in the visual arts and "Exhibition 1," a collection of photographs by photographers of the Boston area, will mark the completion of the Institute's new Creative Photography Laboratory on the third floor of the Armory. The show will run from June 1 to June 26 and will present about 100 photographs by 15 photographers. For the benefit of visitors to Cambridge, the gallery will be open from 10 A.M. to 10 P.M. both on Commencement Day and Alumni Day. These pages offer a selection of prints by exhibiting photographers and by Professor Minor M. White, Director of the laboratory.



Untitled, 1962, Carl Chiarenza



American Roulette, 1962, William Hill



Untitled, 1962, Paul Caponigro

The Changing Campus of M.I.T.

\$50,000,000 worth of construction is but part of the differences Alumni will see on June 14

M. I.T. MEN returning to Cambridge for Alumni Day on June 14 will find the campus undergoing great changes. Construction completed in the last two years, now under way, and that scheduled to start soon will total more than \$50,000,000. Four major buildings costing approximately \$20,000,000 will be completed and dedicated next fall.

Old friends in the M.I.T. community will have new titles and there will be much discussion of educational changes necessitated by a changing world.

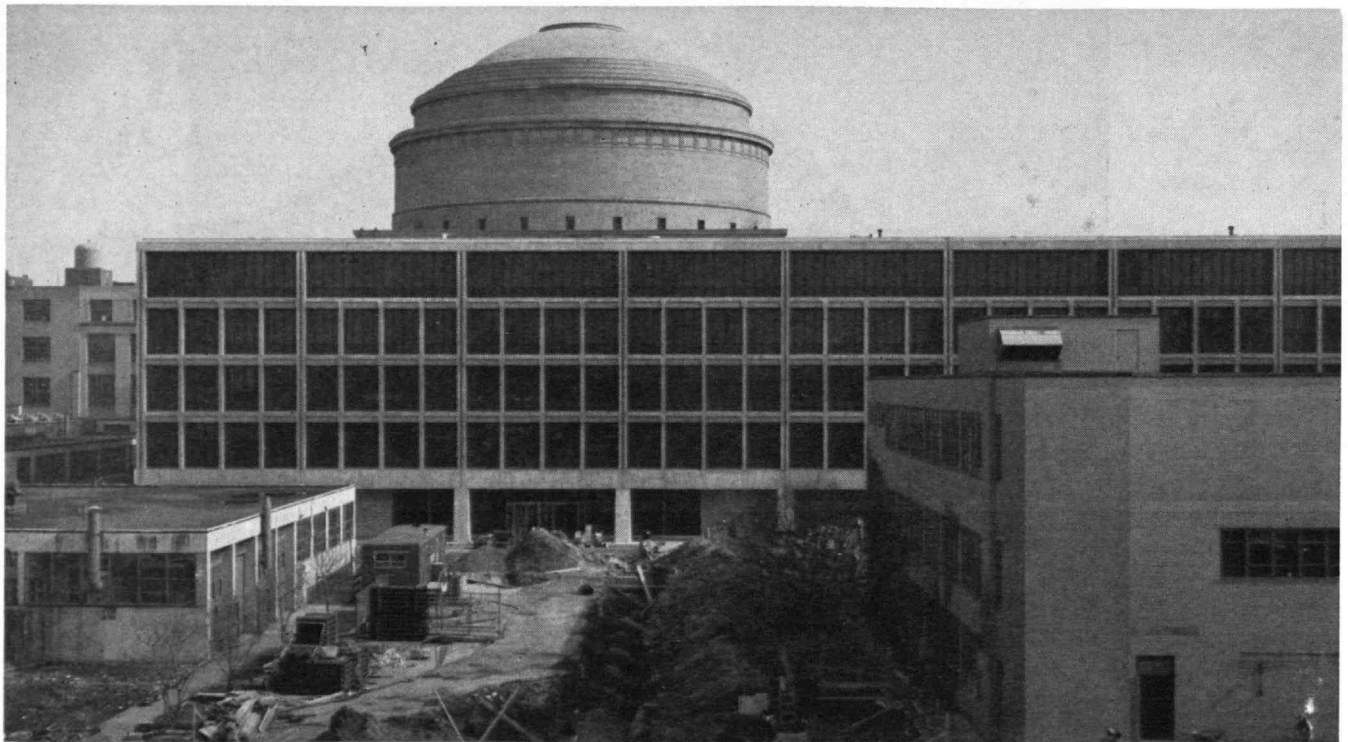
Many parts of the day's program, nevertheless, will be reminiscent of previous Alumni Days. At noon, the returning graduates will meet for luncheon in the Great Court and hear the annual report of President *Julius A. Stratton*, '23. And after the customary Reception and Alumni Banquet, *Arthur Fiedler* will again conduct the Boston Pops Orchestra in a special program from the stage of Kresge Auditorium.

"The World We Live In" will be the day's theme, and *Dean Jerome B. Wiesner* of the School of Science will present a panel of authorities on the earth, the

atmosphere, the seas, and space. The speakers will be *Patrick M. Hurley*, '40, Professor of Geology; *Thomas F. Malone*, '46, Director of Research, Travelers Insurance Company; *William S. von Arx*, '55, Professor of Physical Oceanography; and Professor *John V. Harrington*, '58, Director of the Center for Space Research.

The new buildings that Alumni will see nearly completed will be the Center for Materials Science and Engineering, which is scheduled to be occupied this summer; the Student Center, scheduled to be ready for use when the fall semester starts; the Grover M. Hermann Building, which the builders expect to have ready for an Open House visit on October 1; and the expansion of the Center for Life Sciences, into which equipment and offices soon will be moved.

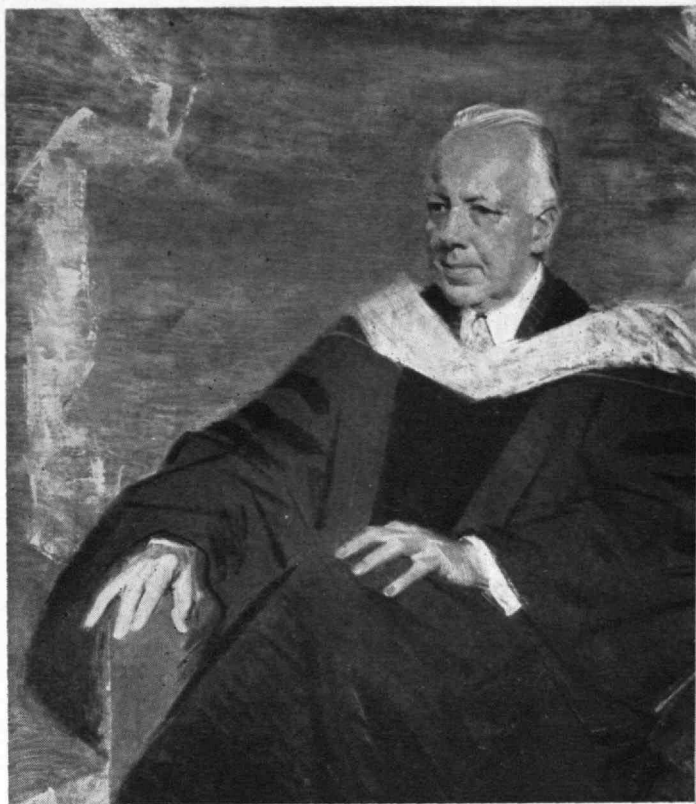
Buildings expected to rise next include homes for the Center for Space Research and the Center for Advanced Engineering Study, the new boathouse, an addition to McCormick Hall (see page 38), and an apartment house for married students and Faculty members near the Alfred P. Sloan School of Management.



The nearly ready home for the M.I.T. Center for Materials Science and Engineering will be dedicated next October 1.



NEW PORTRAITS of Chairman James R. Killian, Jr., '26, of the M.I.T. Corporation (left) and President Julius A. Stratton, '23, from the studios of, respectively,



Thomas E. Stephens and Gardner Cox, '32, have been given to M.I.T. They were unveiled at a meeting of Corporation members with Faculty and student leaders.

Ashdown House

GRADUATE STUDENTS at M.I.T. proposed this spring that the Graduate House on Memorial Drive be renamed Ashdown House in honor of Associate Professor, Emeritus, Avery Allen Ashdown, '24, a devoted teacher and friend to hundreds of students. The proposal was approved and the Graduate House Executive Committee plans appropriate dedication ceremonies on Alumni Day, June 14.

Professor Ashdown was master of "Graduate House" from 1933, when it first was opened, until 1962 and has since continued his close association and friendship with many graduate students as Master Emeritus. He organized the first on-campus graduate residence at the request of President Karl Taylor Compton in the Crafts, Nichols, and Holman dormitories now occupied by undergraduates on the East Campus. He was instrumental in obtaining and renovating the former Riverbank Court Hotel that graduate students have now occupied since 1937.

His appointment as Master of Graduate House in 1933 made him the first Faculty resident in a dormitory residential system that today provides for a Faculty master and his family, Faculty tutors, and graduate tutors in the seven M.I.T. campus residence halls. Since the earliest days of Graduate House he has guided the development of its student government, athletics, and social functions. He has encouraged Faculty-student companionship in both scholarly and

informal activities and he originated the social hub of Graduate House known as "the buttery."

Graduate enrollment, which was about 350 in 1933, is now approximately 3,500. About 450 students live in Graduate House now and many more use its dining and recreational facilities. A portrait of Professor Ashdown by Gardner Cox, '32, was presented to the House in 1956 by former students.

Professor Ashdown was born in North Collins, N.Y. in 1891 and received his bachelor's and master's degrees at the University of Rochester. He continued as an instructor there for four years and was acting city chemist of Rochester in 1919. He received his doctorate from M.I.T. in 1924, having held the Institute's distinguished Grasselli Fellowship. From 1924 to 1925, under the Forris Jewett Moore Traveling Fellowship, he studied in Zurich, Switzerland, with Dr. Hermann Staudinger at the Eidgenossische Technische Hochschule. He then returned to the Department of Chemistry at M.I.T., and began 32 years of close association with students in addition to teaching and research.

He has long been Faculty adviser to the swimming team and to the chemical honorary society, Phi Lambda Upsilon. For nearly 25 years he arranged the annual series of public lectures given by the Society of Arts, and in 1935 he was made an honorary member of the M.I.T. Musical Clubs. He was secretary of the M.I.T. chapter of Sigma Xi for 17 years, chairman in 1957, and has been honorary secretary since 1958.

Professors Promoted

Three score will start next school year with higher Faculty rank

PROVOST Charles H. Townes has announced promotion of 32 members of the M.I.T. Faculty to the rank of full professor and 28 to the rank of associate professor, on the first of July.

Those becoming professors are:

Judson R. Baron, '48, Aeronautics and Astronautics.

Alan H. Barrett, Electrical Engineering.

George B. Benedek, Physics.

George W. Clark, '52, Physics.

Nathan H. Cook, '50, Mechanical Engineering.

Fernando J. Corbato, '56, Electrical Engineering.

Peter S. Eagleson, '56, Civil Engineering.

Richard S. Eckaus, '54, Economics and Social Science.

Franklin M. Fisher, Economics and Social Science.

Leo Friedman, Nutrition and Food Science.

E. Lee Gamble, '30, Chemistry.

Elias P. Gyftopoulos, '58, Nuclear Engineering.

Sigurdur Helgason, Mathematics.

Kenneth A. Johnson, Physics.

Jack L. Kerrebrock, Aeronautics and Astronautics.

John G. King, '50, Physics.

Arthur P. Mattuck, Mathematics.

Bruce Mazlish, Humanities.

Frederick J. McGarry, '50, Civil Engineering.

Paul M. Newberne, Nutrition and Food Science.

Irwin Oppenheim, Chemistry.

Franklin P. Peterson, Mathematics.

George W. Pratt, Jr., '49, Electrical Engineering.

Norman C. Rasmussen, '56, Nuclear Engineering.

Robert C. Reid, '54, Chemical Engineering.

Gian-Carlo Rota, Mathematics.

William W. Seifert, '47, Electrical Engineering.

Dietmar Seyferth, Chemistry.

Ross H. Smith, Athletics.

Wallace E. Vander Velde, '56, Aeronautics and Astronautics.

Myron Weiner, Economics and Social Science.

H. Philip Whitaker, '44, Aeronautics and Astronautics.

☆☆☆

Those becoming associate professors are:

Ali S. Argon, '53, Mechanical Engineering.

Dwight M. B. Baumann, '57, Mechanical Engineering.

Donald C. Carroll, '58, Industrial Management.

Stephan L. Chorover, Psychology.

Geoffrey P. E. Clarkson, Industrial Management.

Jack B. Dennis, '53, Electrical Engineering.

Louis C. Fillios, Nutrition and Food Science.

Jerry A. Fodor, Humanities.

Ernst G. Frankel, '60, Naval Architecture and Marine Engineering.

Bernard J. Frieden, '57, City and Regional Planning.

S. William Gouse, Jr., '53, Mechanical Engineering.

Kent F. Hansen, '53, Nuclear Engineering.

Philip G. Hill, '58, Mechanical Engineering.

Christopher Hunter, Mathematics.

Jerrold J. Katz, Humanities.

Gordon M. Kaufman, Industrial Management.

Edward S. Klima, Modern Languages.

Edward F. Kurtz, Jr., '54, Mechanical Engineering.

Richard H. Lemmer, Physics.

Ronald T. McLaughlin, Civil Engineering.

Sanford A. Miller, Nutrition and Food Science.

Frederic R. Morgenthaler, '55, Electrical Engineering.

Robert P. Rafuse, '57, Electrical Engineering.

Edward B. Roberts, '57, Industrial Management.

Alar Toomre, '57, Mathematics.

Walter F. Urbach, Humanities.

Harry L. Van Trees, Jr., '61, Electrical Engineering.

Gerald N. Wogan, Nutrition and Food Science.



Athletic Director Ross H. Smith is one of the new full professors. With him are Richard E. Lucy, '66 (left) and William R. Brody, '65. Alumni and Faculty will reminisce in the Rockwell Cage (in rear) on June 14.

Becoming Emeriti

A Dean and other noted members of the Faculty are among those who retire in June

PIETRO BELLUSCHI, Dean of the M.I.T. School of Architecture and Planning, is one of the country's foremost practicing architects and exponents of contemporary design, yet he has purposefully synthesized traditional and modern in his works. The reason is that "we have replaced old forms with stark utilitarian ones, which give little nourishment to the senses." So, in the 600 or more structures he has designed in the last 40 years, he has emphasized the need for emotion and movement.

These qualities are expressed in his famous public buildings and Western homes and in designs such as his proposed Juilliard School of Music in the Lincoln Center for the Performing Arts. They have won him many honors, including four awards from the American Institute of Architects. As a consultant he has helped shape many of the nation's principal architectural works, both public and private.

After taking engineering degrees at the University of Rome and Cornell, Dean Belluschi practiced architecture in the United States until coming to M.I.T. in 1951. Since then, his Department's programs and enrollment have grown markedly. From it evolved the Harvard-M.I.T. Joint Center for Urban Studies. Visual design courses and research on materials and structural models also have received emphasis, all as part of Dean Belluschi's aim "to make it possible for each student to become an architect of individual quality."

(Please turn the page)



Becoming Emeriti



OTTO CARL KOPPEN, '24, is widely recognized as a designer of aircraft, but also has a keen interest in the Twentieth Century's other principal means of transportation: automobiles. After receiving a degree in general science from M.I.T. he spent three years on the engineering staff of the Ford Motor Company. A short time later he went to the Fairchild Aviation Corporation, then joined the Institute's aeronautical engineering Faculty, and since then has made automotive things an active hobby.

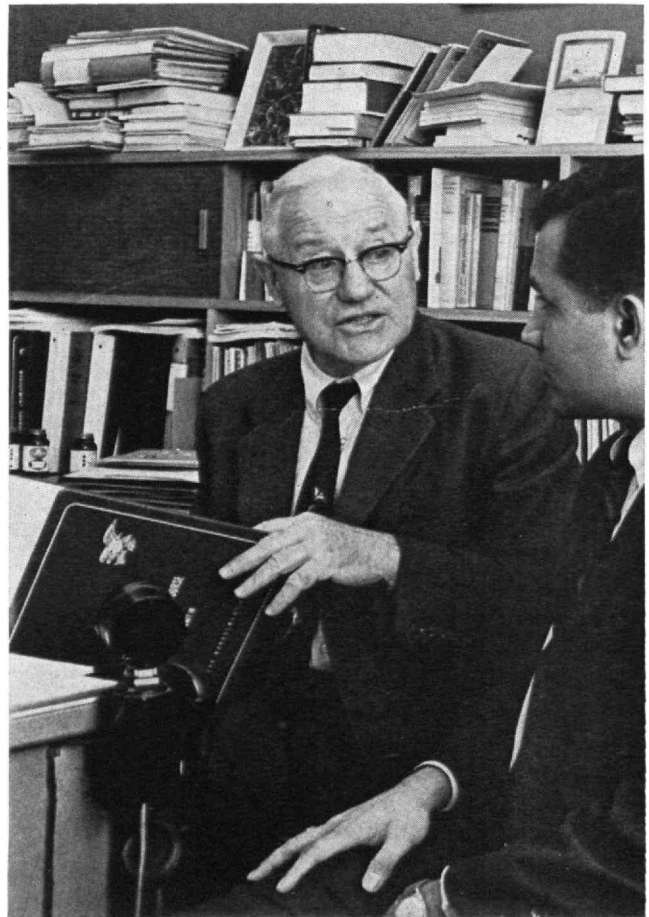
In aeronautics, Professor Koppen's contributions have been in methods of insuring stability and control in flight. In the 1930's he developed a small plane called the "Family Flivver." In 1950 he won national fame with the "Helioplane," which he developed with an associate at Harvard. This stall-proof, spin-proof light aircraft was then revolutionary in its ability to take off from an area little larger than a tennis court.

Professor Koppen served the Institute for 36 years as a teacher and also has been prominent in aeronautical professional societies and in industry. He is seen at left in a recent class with John B. Nugent, '37, of the M.I.T. Instrumentation Laboratory, and Martin D. Haske, Jr., '65.

PAUL PIGORS is a leader in the development of communication within industry (he is pictured at the right in a recent conference with graduate student Vijayhumar J. Shah) and has been teaching industrial relations at M.I.T. for 24 years. Except for brief absences, Professor Pigors has been a member of the Cambridge area academic community since his undergraduate days at Harvard, where also he received his advanced degrees and began his teaching career in 1924.

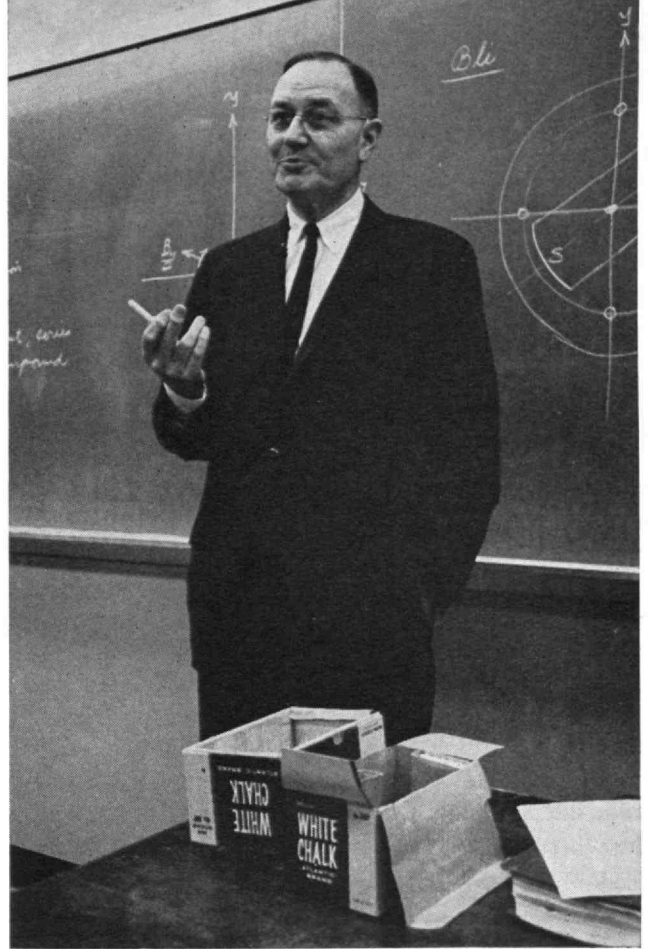
Subsequently he taught sociology at the University of Rochester, returned to Harvard for a period of research, and spent two years at Tufts. He then joined the M.I.T. Faculty as associate professor of industrial relations.

During World War II Professor Pigors applied his special knowledge as panel member of the War Labor Board and as expert consultant in labor relations for the War Department. He is the author of numerous books and articles on labor relations and personnel administration, and his honors have included the \$1,000 Lieutenant Ben Toland Memorial Fellowship Award for his 1948 book-length manuscript, *Effective Communication in Industry*.



RICHARD H. FRAZIER, '23, has been interested primarily in electromechanical control components and is considered one of the country's leading authorities on torque motor magnetic theory. In particular he has worked on developing such things as high-temperature magnet wire, magnetic drums, differential transformers, and accelerometers. He applied this special knowledge as an electrical consultant to M.I.T.'s former Dynamic Analysis and Control Laboratory and, since 1958, has assisted the M.I.T. Instrumentation Laboratory. For a number of years he also has been an adviser to major electrical and electronic companies.

Professor Frazier's research pursuits have coincided with a teaching career of four decades. After graduation, he spent two years in industry, returned to M.I.T. in 1925 as an instructor, and later took a master's degree. During the 1930's he taught at the Lowell Institute School and also at the University of Kansas, where for a time he was in charge of the electrical engineering department. During the war years he had major responsibility for the layout and administration of the Navy V-12 Program in the Institute's Department of Electrical Engineering.



WOLCOTT A. HOKANSON, M.I.T. Bursar, recalls today that he banked the first million-dollar check received by M.I.T. That was nearly 50 years ago, and it was a particularly exciting errand for a boy in his teens who had then worked at the Institute only a short time. The gift of money was from George Eastman, later identified as one of M.I.T.'s great benefactors but known then only as a donor named "Mr. Smith." The check was part of those that enabled the Institute to establish its new campus in Cambridge in 1916.

Actually, Wolcott Hokanson had started work at M.I.T. the year before—when he was 15—as a general office boy, a job he took to assist his family after the death of his father. Working successively at all of the Bursar's accounting tasks, he advanced steadily, becoming bank messenger, then chief accountant and, in 1934, assistant bursar. He was appointed bursar in 1954, and in that year became an honorary member of the M.I.T. Alumni Association. Mr. Hokanson also has been assistant treasurer of the American Academy of Arts and Sciences, and at M.I.T. is known for his generous help to student groups in their accounting problems. Photos of two predecessors adorn his office.

Photos by George Woodruff

How to Plan A Happy Career

Study the tree you are starting up, say authors of a study of typical defense electronics firms

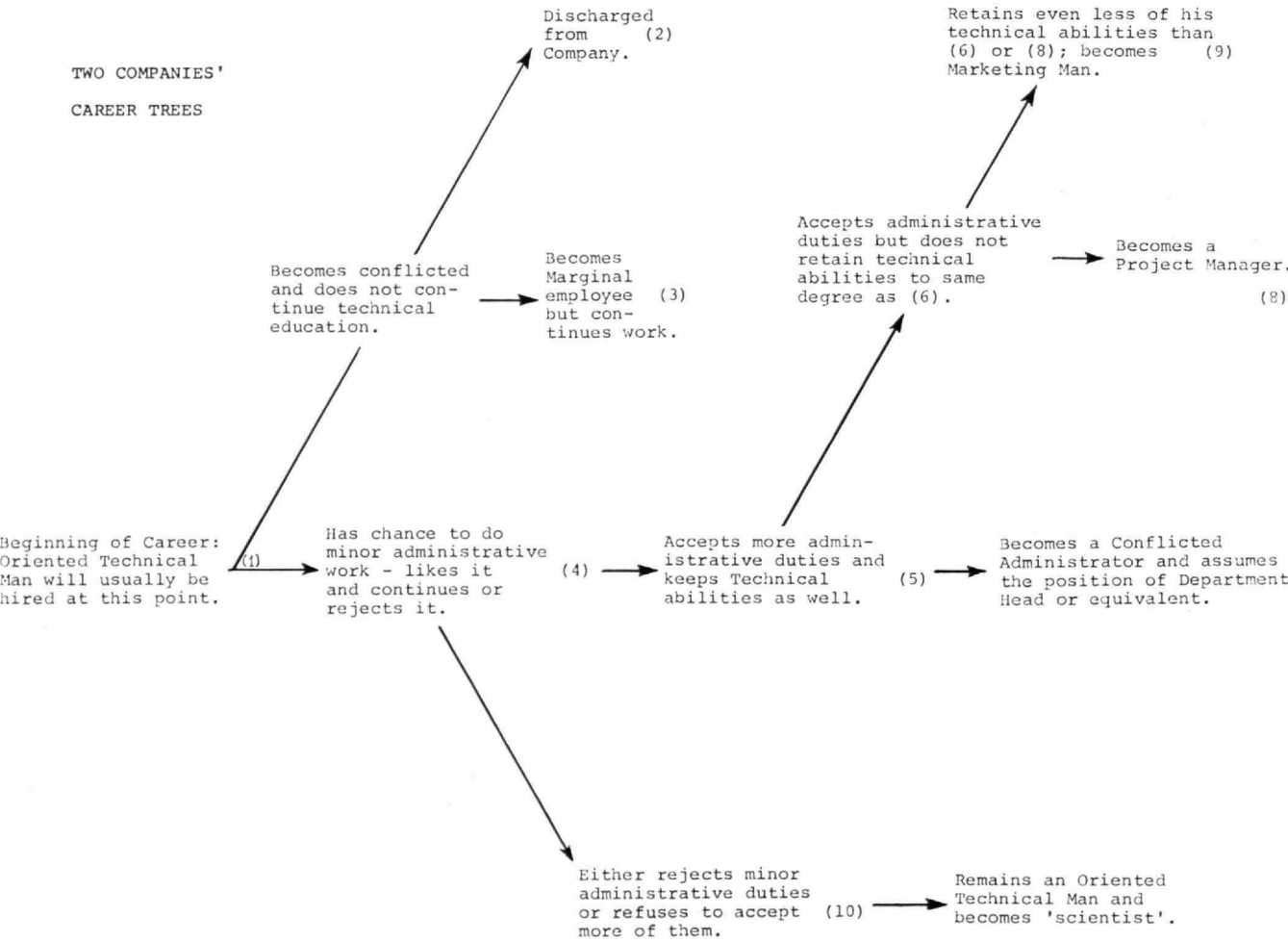
HAPPIEST is he who knows both himself and his company, a recent study advises young engineers who have just embarked on careers in industry. Its recommendations include "some tree-climbing hints for new graduates," the first of which is: Study the tree.

This counsel on planning successfully for success is given in "The Career Tree in Defense Electronics," an analysis of organization and opportunity in two "typical" and prominent companies. The authors are Raphael Soifer, '63, and Elliott J. Moulton, graduate students at Harvard Business School, who made their report this spring in a research paper on organizational behavior. From interviews with company staff members and organization charts, they developed career trees that they say may be useful both to management and to individual engineers.

When "our hero" joins a company and starts up its particular tree, he is likely to face first a period of pure technical work, lasting several years, in which he will be judged primarily on the quality of his technical contributions, according to the study.

"It would be to the engineer's advantage during this period to remain as free as possible from influences not of a purely professional character," they say; even a background that reflects earlier ambitions may prove detrimental. For example, "Management or economics courses during undergraduate school probably do more harm than good, since they detract from the engineer's ability to concentrate on his job at hand." The task may be a project in circuit design, perhaps involving some time at a laboratory bench, and the engineer should appear to be "an Oriented Technical Man" who gets satisfaction from individual technical work well performed.

During this period, a student who has worked part time in industry during college has a "definite advantage." He will be familiar with an industrial environment and possibly have taken "more immediately useful courses." And, "while we do not feel management courses to be of any value at this stage, humanities and literature probably would be of help, as they would assist in training the student in self-expression," say Mr. Soifer and Mr. Moulton. "Even in technical work, the person who can express himself best in speech and writing has a real advantage over those who cannot."



Advanced degrees are also useful, but the two authors say that if they signify a strong commitment to professional values by the holder, he may become dissatisfied with later jobs that require both administrative and technical work.

The authors advise that an engineer not strongly interested in technical matters "should avoid climbing this sort of tree." If his interests are at odds with his work, "there is little or no future in the early years with these organizations. . . . His only hope would be to find some sort of job in which technical work is not required." Yet even then he would have trouble in getting promoted, they say, because such companies draw mostly from the purely technical ranks.

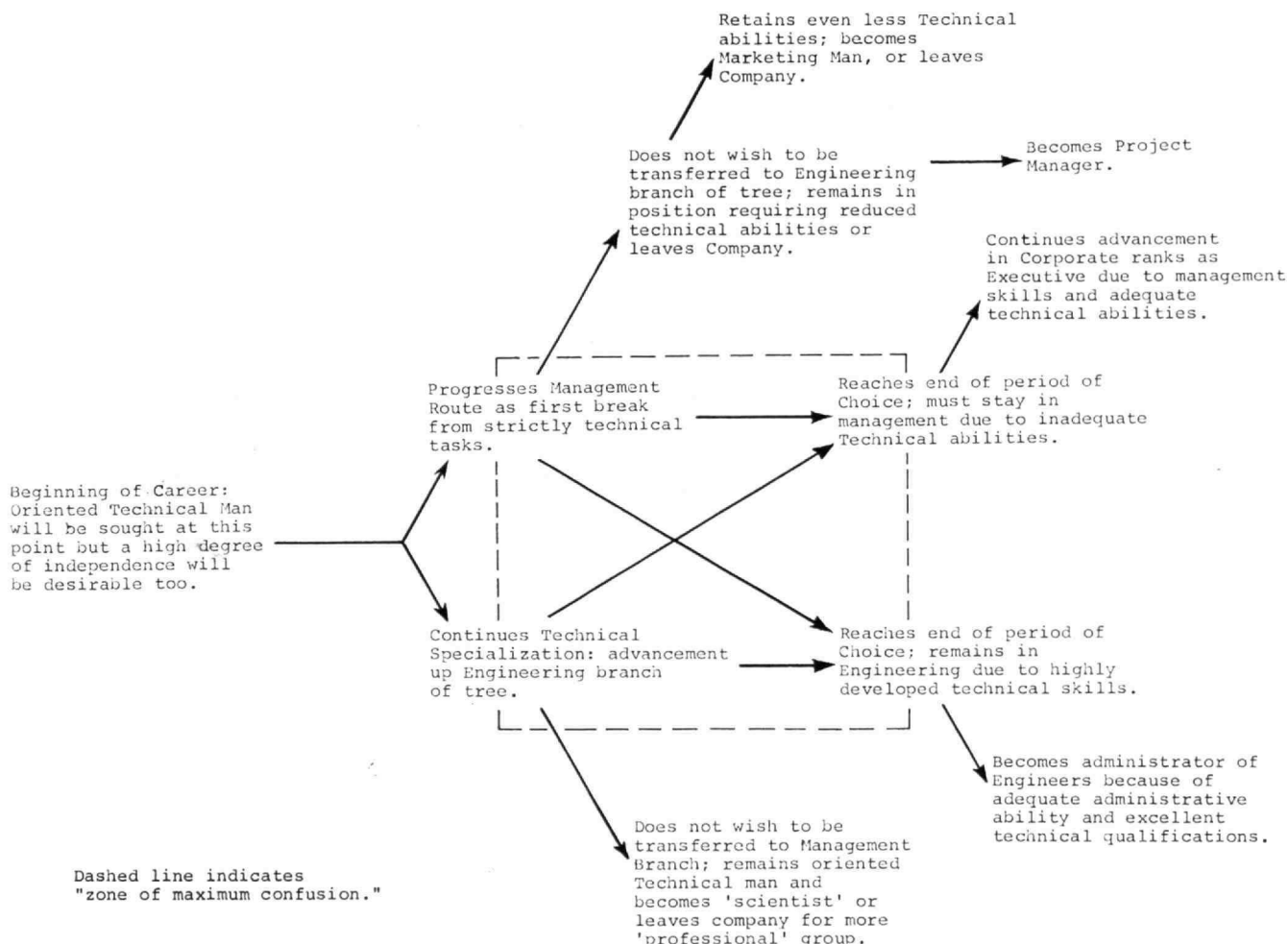
As engineers who are aiming at managerial positions rise through the echelons, their personal values need to change. However, they should take care that this shift in values does not progress too rapidly, the authors warn. "Assuming that such engineers have survived the early technical-specialist years, they should seek out tasks which allow them to demonstrate that they have those qualities for which their organization looks in selecting managers. If they advance too fast, they lose out completely; if too slowly, they miss out on valuable opportunities which may never be theirs again, and they will end up as senior technical men, unpromotable and probably unhappy." But if they become project managers, they should "discard whatever professional orientation they

still have and go all-out for power, status, and empire-building. . . .

"It is admittedly very difficult to match one's orientations to the job," say Mr. Soifer and Mr. Moulton. "Failing this, one should at least try to match the job to one's own values. In addition to studying the tree, our advice to the young graduate is this: Know thyself! If you are technically oriented, don't take a job in which you will be evaluated on your company loyalty and your ability to get things done through others."

By the nature of things, most of the burden of career planning falls on the engineer himself, they write. "Companies do not hire individuals, they hire bodies which are assumed to be alike in all respects except the particular technical speciality stuffed in the cranial cavity." The authors call this method "vacuum-sweeping the commitment spectrum." Within the companies, selection processes for key jobs are "often irrational and out of keeping with the qualities really demanded." Values professed by the organization are often contradictory, they say, and relationships between different parts of the company command change so fast that organizational charts go unheeded.

"Small wonder, then," the authors conclude, "that most key people feel their promotions were special cases. . . . For the engineer who does not consciously know his own motivations and does not plan his career accordingly, every job change will indeed be a special case."



A Second Hall for Women

CONSTRUCTION of a second eight-story residence for women on the M.I.T. campus will begin this summer. The generosity of Mrs. Stanley McCormick (Katharine Dexter, '04) has made this possible, and the Director of Admissions, Professor Roland B. Greeley, now expects M.I.T. to be able within a few years to admit 75 freshman women each fall.

When Mrs. McCormick's class was graduated, only 24 women were enrolled at the Institute. There are now 291, nearly twice as many as last year. Mrs. McCormick has long been a benefactor of women at M.I.T. and her gift of Stanley McCormick Hall made this year's great increase possible. Stanley McCormick Hall is M.I.T.'s first permanent residence for women.

The new residence hall now scheduled for completion in 1967 will be east of McCormick Hall, near Memorial Drive but facing Amherst Street and the M.I.T. Chapel. The two halls will be connected and similar in style, with limestone vertical ribs over a structure of reinforced concrete, although interior arrangements will differ. Professor Herbert L. Beckwith, '26, of Anderson, Beckwith and Haible, has been the architect for both halls. Long-range plans call for construction later of an adjoining third unit to provide recreational and athletic facilities for women.

M.I.T. was the first technological institution to admit women, and the first to employ a woman as a member of its teaching Faculty, but limited its admission of women students for many years because of the lack of suitable housing for them. Last June women received M.I.T. bachelor's degrees in physics, mathematics, electrical engineering, metallurgy, chemical engineering, aeronautics and astronautics, and biology. Mrs. Jacquelyn A. Mattfeld, Associate Dean of Student Affairs, reports that about 70 per cent of the undergraduate women at M.I.T. now go on to graduate study, "many in areas in which the nation urgently needs more women."

The Class of 1969

THE M.I.T. Class of 1969 will probably have about 920 members, most of whom will come from 1,520 high school seniors who have been accepted thus far by the Institute. The M.I.T. Admissions Office sent acceptance notices to 90 last fall and mailed out 1,430 on March 31. Director of Admissions Roland B. Greeley expects that about 875 of the 1,520 will choose to attend M.I.T. Foreign students and others will fill the remaining places. From 550 to 600 of the new students probably will receive some form of financial aid, according to Director of Student Aid Jack H. Frailev. '44.

Equality of Opportunity

M.I.T. was the third university in the United States and the first in Massachusetts to sign a Plan for Progress statement this spring, pledging a continued policy of nondiscrimination, in agreement with the President's Committee on Equal Employment Opportunity.

"We at M.I.T. may view with satisfaction, I believe, our long adherence to the principle of equal opportunity for all, and we can be proud of our record of selection and advancement of personnel on the basis of qualifications and performance without regard to race, creed, or color," President Julius A. Stratton, '23, said. "To this end I have recently signed on behalf of the Institute a statement called a Plan for Progress, reaffirming our policy of nondiscrimination and pledging our dedication to new levels of effort toward the idea of equal opportunity.

"Because of our own special circumstances as an educational institution, we are particularly mindful of the basic need for proper training and conscious of our responsibility to be of help. During the past year we have brought together a Faculty Committee on Educational Opportunity to focus the interest of M.I.T. on these problems and to consider ways in which we might contribute meaningfully to their solution. Student groups and individual students, some working through the Social Service Committee, have taken an active interest and are working most effectively with young people in the local community to stimulate the desire for education in those who may heretofore have considered it to be beyond their reach."

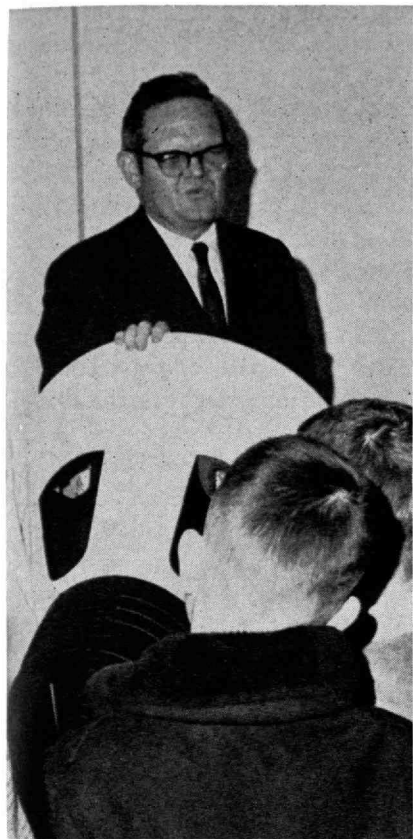
Churches and The City

AS CITIES change, religious groups of all faiths are confronting new problems, and M.I.T. will conduct a Special Summer Program in an attempt to help them.

Enrollment in the program, an unusual one for M.I.T., is open to church officials and lay representatives and to professional workers in religious or government agencies involved in urban development. From July 26 to July 30 they will meet in a series of seminars on the topic, "Religion and Community Co-operation in Planning, Housing, and Architecture." Paul Oppermann, Visiting Bemis Senior Lecturer in Metropolitan Planning at M.I.T., will direct the program.

"All kinds of complexity exist in the urban situation today," explains Mr. Oppermann. Urban renewal programs have altered the physical and social character of established areas and new neighborhoods have sprung up where none existed before. Slum clearance may preserve a church building, he notes, but remove its congregation. Such developments influence church policy and building programs, which often involve large sums of money.

Members of the M.I.T. Department of Architecture and Planning and guest speakers will lead the seminars, which will seek out possibilities of co-operative efforts by churches, government agencies, and communities.



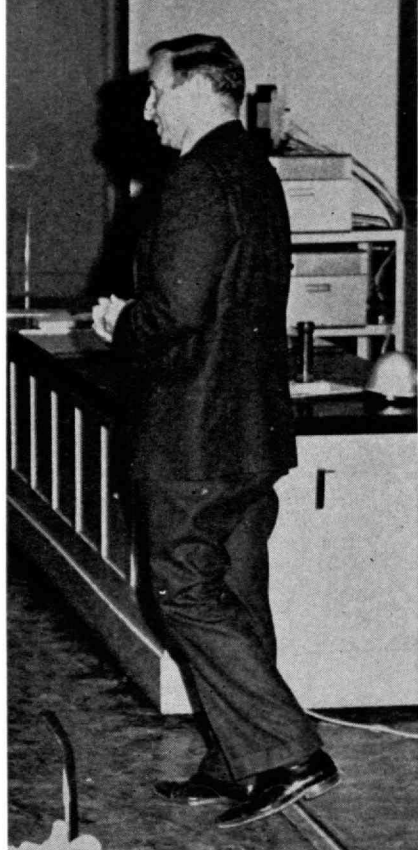
Professor E. Eugene Larrabee, '48, explained a Gemini mockup to the visitors concerned about space.

Open House This Year

M.I.T.'S MILES of corridors were congested with pedestrians again on April 10 this year for the Open House festivities planned by students. For the guests, it was like browsing through an animated encyclopedia. Professors joined undergraduates in showing everything from little trains to big rockets to both parents and children.

For 100 high school students and 50 teachers from nearby schools, it was the climax of a three-day Junior Science Symposium that students also arranged. Provost Charles H. Townes told these visitors that a university's object is to share knowledge, and Dean Jerome B. Wiesner observed that it is better to know some of the questions than all of the answers—but only after you have passed your examinations.

Henry A. Lickstein, '65, was chairman of the Open House Committee, and John B. Adger, Jr., '66, was chairman of the committee in charge of the Junior Science Symposium.



Photos by John Torode, '66

Professor Hans-Lukas Teuber, Head of the Department of Psychology, lectured to Open House visitors.

Outlook on Man's Future ... The Third Alumni Seminar

FOR THE third year, M.I.T. will offer a seminar for Alumni this fall. "Outlook on Man's Future" will be the topic and a faculty of nine noted scholars will discuss it September 11, 12, and 13 in the Little Theater of Kresge Auditorium.

President Julius A. Stratton, '23, will open the seminar in an address to the registrants when they gather for lunch on Saturday noon, and he and Mrs. Stratton will be their host and hostess at a reception on the final day.

Professor Lucian W. Pye will introduce three lecturers on the *Future of Industrial Society* on the first afternoon. Faculty members and Alumni will dine together and discuss these lectures that evening.

There will be religious services in the M.I.T. Chapel on Sunday morning, following which Professor Walter A. Rosenblith will present three lecturers on *Our Future Environment*. Provost Charles H. Townes will preside at a session in the Auditorium following a group dinner that evening.

Monday morning Professor Richard M. Douglas will be chairman of a session at which three lecturers will consider *Values: Prospects and Directions*.

Chairman James R. Killian, Jr., '26, of the M.I.T. Corporation, will moderate a panel discussion that afternoon of the topics of the previous lectures.

The lecturers will include Hudson Hoagland, '24, on *The Pressure of Numbers*; Professor Charles P. Kindleberger, on *Economic Organization in the 21st Century*; Professor Bruce Mazlish, on *The Individual and the Limits of Social Change*; Professor Nevin S. Scrimshaw, on *Food and Health*; Professor Charles L. Miller, '51, on *Transportation Systems*; Dean Emeritus John E. Burchard, '23, on *Megalopolitan Urbanity*; Professor Gyorgy Kepes, on *Art*; Professor Elting E. Morison on *Education*; and Professor Milton Katz of Harvard, on *Law*.

The seminar will be a serious effort to impart new knowledge to a group of thoughtful adults who will be asked to have prepared themselves beforehand by appropriate reading. Attendance will be limited to 200 Alumni and wives. All registrants will be accommodated in the Baker House dormitory.

Inquiries regarding attendance should be addressed to the Alumni Seminar Committee, Room E19-439, M.I.T., Cambridge, Mass. 02139.

Birthday of a Business



F. J. Shepard, Jr., '12, at his desk in Watertown, Mass.

A BUSINESS founded by F. J. Shepard, Jr., '12, and Arthur L. Lewis in a Boston loft 50 years ago observed the anniversary this spring with both founders still working full days at their desks. The firm, Lewis-Shepard Products Inc., is now the nation's largest exclusive manufacturer of electric-powered industrial trucks.

Mr. Shepard, who is 75 years old, is currently streamlining the production flow with the help of a new IBM 1440 computer, and is confident that his company's heavy investment in research and development will keep it in a strong position in the years ahead. Mr. Shepard has been secretary of the M.I.T. Class of 1912 since 1922—and is the uncle of astronaut Alan Shepard.

To Enlarge Machine Memories

FOR SOME time users and designers of digital computers have been persistent in demanding larger main memories for their machines. "By which they mean, of course, cheaper memory," says Jack I. Raffel, '54, leader of the Digital Computers Group at the M.I.T. Lincoln Laboratory. His group is now building an experimental prototype of a million-bit magnetic film memory that could cost only a fraction as much as computer memories of comparable size and speed now cost.

Information storage techniques probably have a greater influence on computer design than any other factor, says Mr. Raffel, yet there have been few major advances since the development of ferrite cores at M.I.T. in the early 1950's. One innovation was a com-

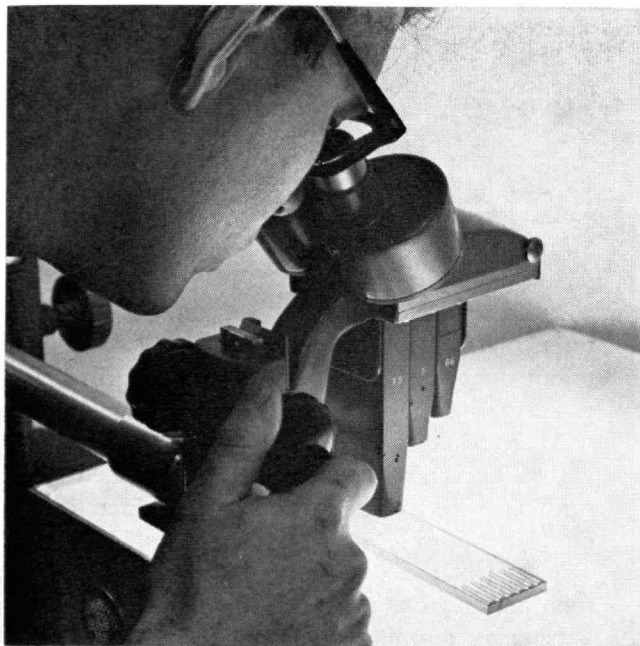
puter memory, composed of arrays of tiny dots of thin magnetic film, that Lincoln Laboratory researchers installed in 1959 in their TX-2 computer. The first of its kind to be used in an operating computer, the experimental memory was very fast but had a capacity of only 320 bits.

Instead of dots, hairline strips of copper-coated magnetic film are the information storage medium in the experimental memory now under development. They are etched on flat strips of glass about the size of a slide rule. One such component contains straight "word" lines two mils wide and two mils apart, and a second has digit lines formed in continuous square loops like the crenelations of a castle.

When the glass strips are placed together crosswise with an insulating layer between them, each intersection of the lines forms a magnetic region that can be switched to store a bit of information, either a binary 0 or 1. The basic module of the memory will contain one million bits in a sort of laminated grid of 10 word-line and 10 digit-line strips.

Less than one microsecond will be needed to read a word in and out of this memory. Another advantage, according to Mr. Raffel, will be the possibility of reading many words in and out simultaneously. This will have a profound influence on logic design of machines and the Lincoln group also is working on this aspect.

Present core memories cost about 5 to 10 cents per bit, including associated circuitry. Assuming current circuit costs, says Mr. Raffel, significant economies will be achieved only in very large memories. Such memories storing from 10 to 100 million bits can be achieved, he believes, through magnetic film engineering. With a projected cost of only .3 cents per bit, the film-strip prototype is a step in this direction.



A Lincoln Laboratory researcher inspects fine lines of magnetic film etched on a strip of glass. Pieces of glass like this are the basic component of a fast, low-cost computer memory the laboratory is developing.

15 Historic Scientific Books Are Given to M.I.T. Libraries

Rare volumes collected by an Alumnus to be available for study

I. AUSTIN KELLY, 3d, '26, has given M.I.T. 15 rare scientific books—including a two-volume 1729 English version of Sir Isaac Newton's *Mathematical Principles of Natural Philosophy*, a Sixteenth Century book of animal drawings by the zoologist Konrad von Gesner, and first editions of works by Sir Francis Bacon and Galileo Galilei.

Mr. Kelly is the founder and president of the National Employee Relations Institute, Inc., of New York City, and is widely known as a collector of rare books, antiques, and period paintings. He has established and furnished an outstanding rare book room at the Peddie School, Hightstown, N.J., where he prepared for M.I.T.

Professor William N. Locke, Director of the M.I.T. Libraries, said an exhibition of the Kelly collection in the M.I.T. Hayden Library building is being planned, and the books will be made available to scholars for research in the library. The collection includes first editions of works by great figures in the dawn of the scientific age.

Konrad von Gesner was the founder of modern zoology and his major work was the four-volume *Historiae Animalium* published in Zurich between 1551 and 1587. The book of color plates included in the Kelly collection contains Gesner's pictures of the animals he described in his *Historiae*.

Two Bacon first editions are in the Kelly collection: *The Two Books of Francis Bacon; Of the Proficiency and Advancement of Learning, Divine and Human*, published in London in 1605, and *Novum Organum*, published in London in 1620. Bacon wrote *Two Books* as a preparation for, and a key to, his later monumental work on the philosophy of science, *Instauratio Magna*. The *Novum Organum* in the

Kelly collection actually appears bound into an edition of the *Instauratio* that was published in 1868. The original printing of *Novum Organum* did not sell well when published and several copies survived in the hands of publishers. When the *Instauratio* was re-issued in 1868, surviving copies of the *Novum* were bound into it as an additional section.

Also included in the collection is a first edition of the *Dialogue* of Galileo Galilei, published in Florence in 1632, and a first edition of his *Discourse*, published in Leyden in 1638. In his *Dialogue*, the great Renaissance genius pitted two interlocutors in argument—one supporting the then-new Copernican theory of the universe that put the sun at



A drawing from the 16th Century classic by Konrad von Gesner.

the center of the solar system, the other supporting the older earth-centered Ptolemaic theory. The Copernican theory is proven valid, and for this the book was suppressed and Galileo was tried and fined by the Inquisition. Galileo's *Discourse* was the first modern textbook of physics and is considered a foundation stone in the science of mechanics.

Still another book in the collection is what appears to be a first edition of *Ars Conjectandi*, published in 1713, in which the great mathematician and scientist, Jacques Ber-

(Concluded on page 63)



James R. Killian, Jr., '26, Professor William N. Locke, and I. Austin Kelly, 3d, '26, with the rare books Mr. Kelly has given to M.I.T.

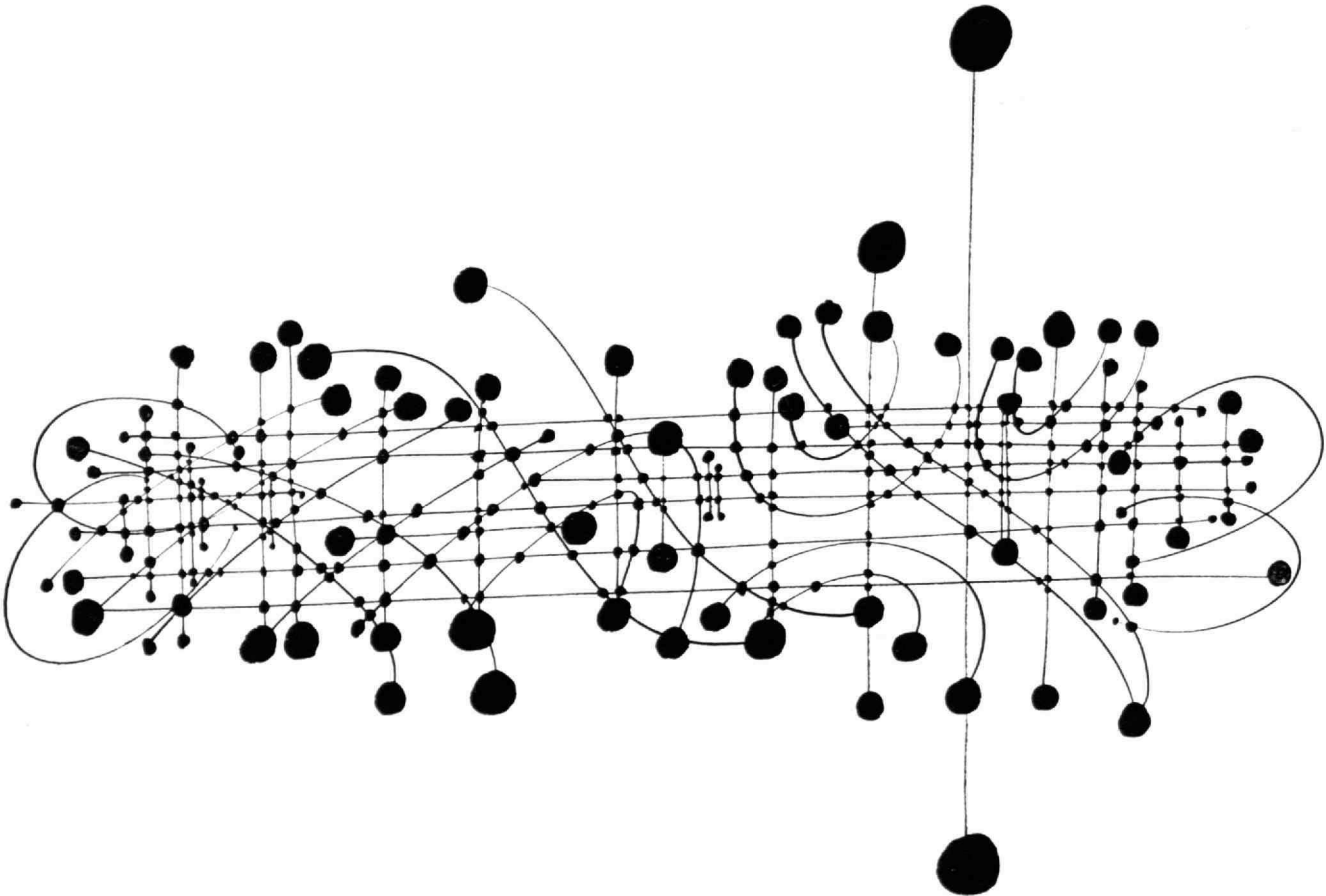
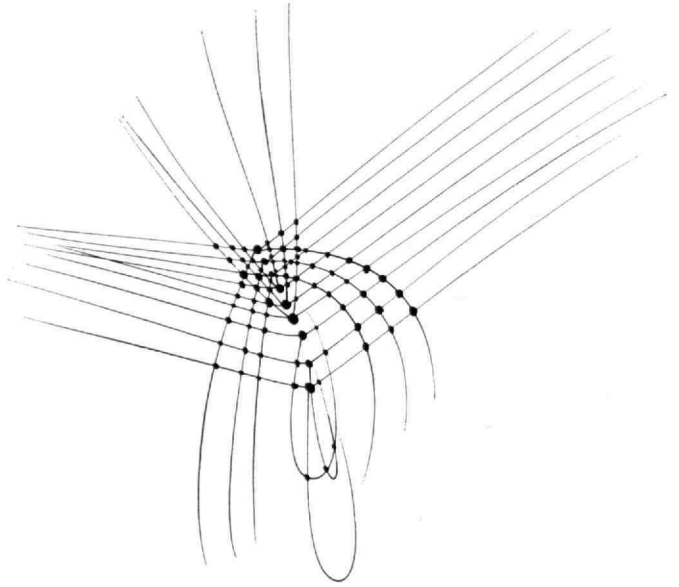
Some Schema by Robert E. Mueller, '48

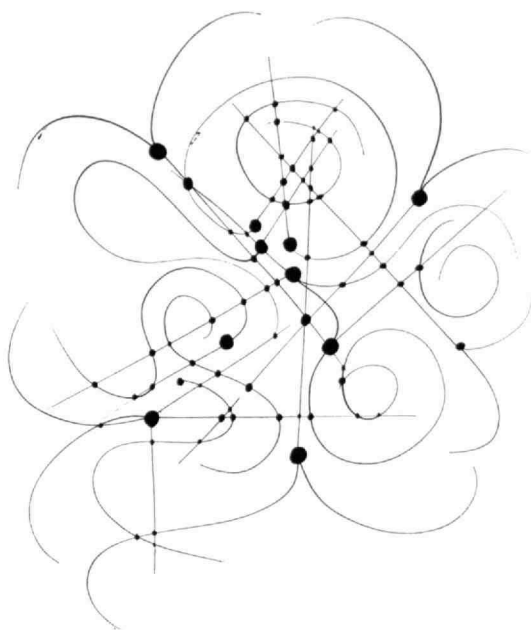
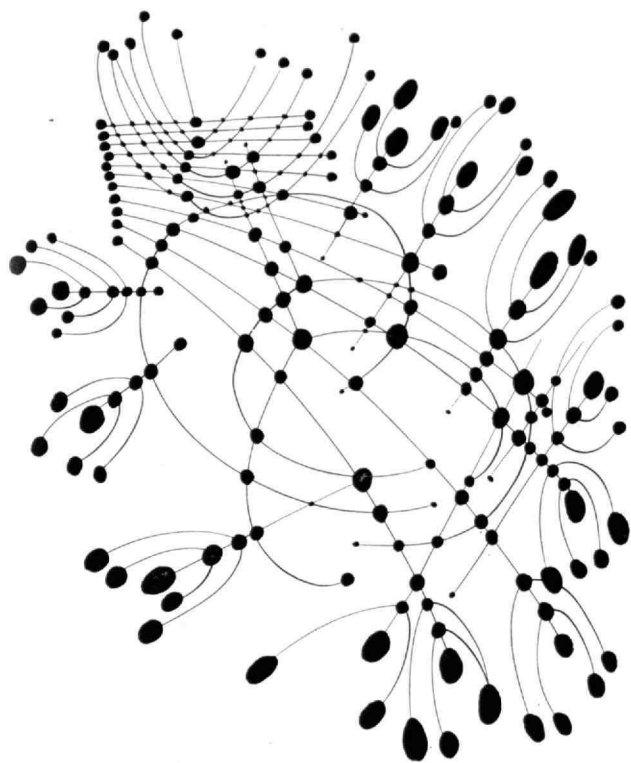
*Will art of the future reduce
technique to elemental sense?*

ROBERT E. MUELLER, '48, studied art and philosophy at New York University after leaving M.I.T. and had his first one-man show of oils and encaustics in 1955. Others followed; his woodcuts are now in the Museum of Modern Art, and his painting has been seen on the cover of *International Science and Technology*.

Mr. Mueller also has worked for RCA on a camera system for a moon probe, written three books (*Inventivity*, *Inventor's Notebook*, and *Eyes in Space*, published by the John Day Co., Inc.), and has done puppet shows with his wife Diana.

Science, Mr. Mueller says, pushes art ahead of it and offers the artist many opportunities. He may, for example, exploit new materials, new inventions, new principles. Good optical art, he thinks, attests to the va-



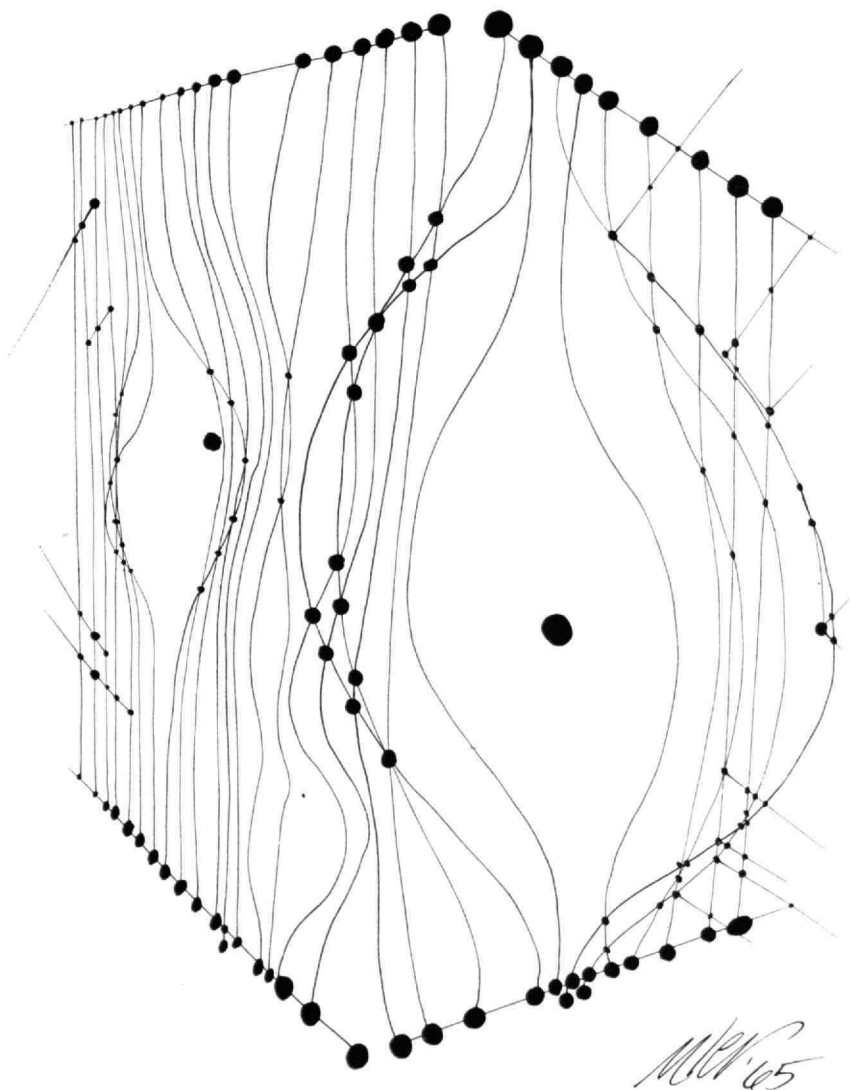


lidity of this approach, and when he lets his imagination roam he thinks of lasers tuned to splash "undreamed of artistic optical phenomena" on the heavens or moon.

Pop art, he continues, represents another approach open to the man who wishes to be contemporary. By reacting against the communications bugbear created by science, some artists have reflected the temper of our times in symbolic form. Mr. Mueller, however, prefers a third approach—in which the artist does not rely on science so directly to express current society.

Shown on these pages are five examples of "schema" on which he has worked through 13 sketchbooks and many single sheets. The idea, he says, was derived from Picasso and is to reduce technique to the most elemental visual sense possible: simple lines and dots.

"Art is the only outpost of the individual left in a science-oriented world," he says, "and as science grows more and more all-understanding, so art becomes more important, more interesting. Art need not be a three-dimensional, hi-fi, suspended-in-midair, computer-controlled art to be truly 'art of the future.' These illustrations are sort of a visual demonstration of this."



Library Problems Will Be Explored

A new kind of information transfer complex is needed and M.I.T. men hope to develop it

A FIVE-YEAR, multimillion dollar program called INTREX (for information transfer complex) will be charted this summer to help libraries cope with the explosion of knowledge. INTREX is intended to explore by experiment how science and engineering—particularly computers, data processing, and rapid copying techniques—can be used to develop wholly new concepts in library functions and service. A “rapid-access knowledge network” is envisioned, capable of handling the flood of information that threatens to immobilize present-day libraries and making that information more easily available.

Government, industry and university leaders will meet at the National Academy of Science Summer Study Center in Woods Hole, Mass., next August 2 to September 3, to lay down the plan of research that INTREX will follow. Vannevar Bush, '16, Honorary Chairman of the M.I.T. Corporation, will set the conference theme in the opening discussion. Professor Carl F. J. Overhage, former director of the M.I.T. Lincoln Laboratory, will lead the INTREX effort, and the M.I.T. community will be the laboratory for developing and proving out INTREX systems.

“The crisis faced by our great university libraries is one of the most distressing,” Professor Overhage says, “for these libraries have long been regarded as outstanding manifestations of our cultural progress. The threat that they might become lifeless monuments choked by the pressures of exponential growth in books, journals, and reports, is viewed with deep concern.

“The world’s recorded knowledge more than doubles every 15 years. The research literature in chemistry has been doubling every 8½ years. About 35,000 scientific and technical journals are now published throughout the world and between 1,200 and 1,500 new ones start each year. These 35,000 journals carry more than 2 million articles per year.

“With the introduction of computer programs capable of manipulating natural language, a new approach has become possible toward controlling the flow of information by rapid and effective techniques. Major problems remain to be solved in the field of linguistics, but there can be no doubt that great contributions to library progress will come from advances in electronic data processing, especially when combined with optical

displays and with new methods of photographic storage and replication.

“The bright promise of this new technology must not be misinterpreted. The answer to the library problem will not be found ready and waiting on the shelves of equipment manufacturers. In today’s library operations, electronic data processing has important uses which should be fully exploited now. But the complete replacement of present library procedures by today’s electronic techniques would only lead to disappointment. We must do more than mechanize the conventional library. We must design an information transfer system.”

A grant of nearly \$200,000 from the Independence Foundation of Philadelphia will support the conference at Woods Hole. This foundation, headed by Robert A. Maes, originally was called the National Cancer Research Foundation. It was started in 1932 by the late William H. Donner of Philadelphia, a leader in the steel industry, and its name was changed to the Donner Foundation in 1945. In recent years its program has included efforts directed toward improvements in education and since 1961 it has been known as the Independence Foundation.

Participants in the Woods Hole conference will include Dean Emeritus John E. Burchard, '23, of the M.I.T. School of Humanities and Social Science, whose presence will underline the leaders’ determination to deal with the general library problem as it applies to all fields of scholarship; J. C. R. Licklider, whose new book, *Libraries of the Future* (The M.I.T. Press, \$6), is dedicated to Dr. Bush, one of the first men to appreciate the problem; and a delegation from the Bell Telephone Laboratories headed by Max V. Mathews, '52, who has conducted extensive investigations into information transfer systems.

Libraries will be represented by Herman H. Fussler, Director, University of Chicago libraries; Dean Don R. Swanson, University of Chicago Graduate Library School; Herman H. Henkle, Executive Director, John Crerar Library, Illinois Institute of Technology; Professor William N. Locke, Director of Libraries, M.I.T.; Stephen A. McCarthy, Director of Libraries, Cornell University; Foster E. Mohrhardt, Director, National Agricultural Library, U.S. Department of Agriculture; and Harald Ostvold, Director of Libraries, California Institute of Technology.

Publishers’ representatives will include Curtis G. Benjamin, chairman of the board, McGraw-Hill Publishing Co., and E. S. Proskauer, Vice-president, John Wiley & Sons, Inc.

Numerous research groups have designed computer-aided systems to cope with various segments of the information storage and retrieval problem. At M.I.T., Myer M. Kessler, '39, Associate Director of Libraries, now uses a computer to index and cross-reference articles in 19 different physics journals. By building on such research, INTREX leaders hope to have a new library complex in operation by the 1970’s.

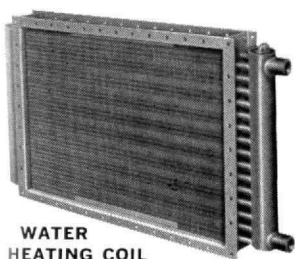


B. E. JAMES '32, *President*
JOHN A. MOGA, JR. '57

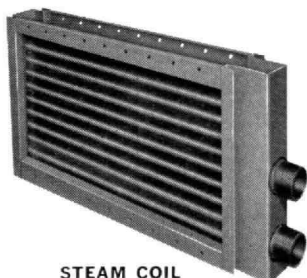
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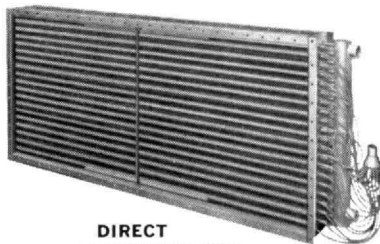
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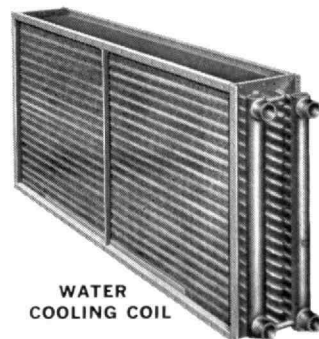
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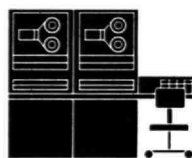


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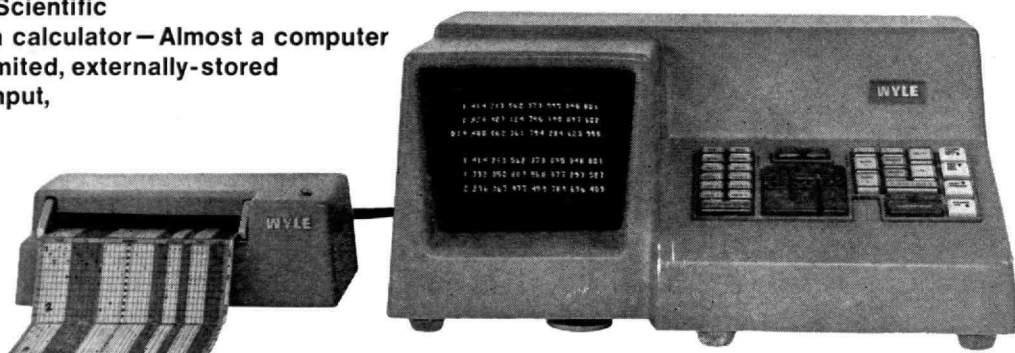
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000 000 004 512 000 000 000 000	Entry Register
000 000 000 000 000 495 582 441	Accumulator Register
000 000 000 000 000 414 213 562 373	Storage Register 1
000 000 000 000 000 732 090 807 568	Storage Register 2
000 000 000 000 000 236 967 977 499	Storage Register 3

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metic registers, but also of the three storage registers are displayed at all times. Numbers entered from the keyboard are seen as they are entered and can be verified before use.

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Swift Feedback in Survey Research

An experiment suggests more uses for computers in research, education, and even in government

By William M. Evan

Associate Professor of Sociology and Industrial Management at M.I.T.

LARGE-SCALE simulation studies in economics, sociology, political science, and industrial dynamics have been made possible by advances in computer technology. Moreover, computers have largely displaced less efficient equipment, such as desk calculators, for processing social science data. Computer technology is encouraging the development of new social science models and the establishment of archives or "data banks" for theoretical and policy-making purposes. Yet very little attention has yet been paid to the potential impact of advances in computer technology on social science research itself.

One of the services that computers can offer is immediate feedback of results of surveys to those who furnish the data. This article will describe a demonstration experiment in immediate feedback, and suggest some implications of this experiment for research, teaching, and political institutions.

It is now customary for social scientists performing the role of consultants or "change agents" to provide their clients with feedback of the results of their investigations as quickly as possible. But some either never take the trouble to give their subjects or audiences feedback of the results of the data, or postpone it so long that whatever useful effect it might have had is reduced or lost completely. Small wonder, therefore, that one of the common obstacles to obtaining the co-operation of organizations is their unwillingness to have their employees or members expend time filling out questionnaires or being interviewed, yet receive in return no useful information derived from the study. The chances of eliciting co-operation from executives of an organization would probably be vastly improved if the feedback of the findings were virtually immediate. If people were certain that they would be the consumers of the information they provided, they might be more likely to give candid replies, assuming that they were assured of the anonymity and confidentiality of the data. Immediate feedback also could give a social scientist an opportunity to ask a new set of questions after obtaining the answers to the first set. He could, in other words, make a "sequential survey" of an audience to explore the sources of confirmed and unconfirmed hypotheses, on the one hand, and of unexpected and anomalous findings on the other.

PROFESSOR EVAN was a research sociologist at the Bell Telephone Laboratories before coming to M.I.T. in 1962. He received his A.B. at the University of Pennsylvania and his Ph.D. at Cornell, and has taught at Princeton and Columbia Universities. His teaching and research interests include organization theory, organizational experiments, industrial sociology, and the sociology of law.



M.I.T.'s Project MAC (for Machine-Aided Cognition or Multiple-Access Computer) has developed an experimental time-sharing computer which many persons can use simultaneously from remote locations. The availability of this computer facility and a recent meeting at M.I.T. of the New England section of the American Institute for Aeronautics and Astronautics offered an opportunity for a demonstration experiment in immediate feedback. The subject of the meeting was, "Is Technical Obsolescence Overtaking You?" and three panelists, a moderator, and members of the audience were to discuss this increasingly vexing problem. As one of the three panelists, I persuaded the sponsors of the meeting to ask members of the audience to fill out a brief questionnaire before it started, with the understanding that some of the data would be analyzed at once on Project MAC and the results reported to the audience before the meeting ended. Five items on the questionnaire were particularly relevant to the subject of the meeting: the number of technical courses a scientist or engineer has taken in the last five years to increase his technical knowledge; his percentage salary increase in the last five years; his age; his number of fields of specialization; and his self-rating on his degree of obsolescence in the field in which he is doing most of his work.

As soon as the audience of 70 engineers and managers of engineering operations completed the ques-

(Continued on page 66)

New Books

SCIENCE AS A CULTURAL FORCE, edited by Harry Woolf (Johns Hopkins Press, \$3.95); and **THE DIMENSIONS OF DIPLOMACY**, edited by E. A. J. Johnson (Johns Hopkins Press, \$3.95).

Reviewed by Associate Professor Thomas P. Hughes.

IN THE LAST decade we have become increasingly aware of influential positions held by special advisers to the President. With the accelerated accumulation of knowledge and techniques the executive has formalized the expert advisory function by creation of such positions as Special Assistant for Science and Technology and Special Assistant to the President for National Security. Among special assistants appointed by Presidents Eisenhower and Kennedy were James R. Killian, Jr., '26, and Jerome B. Wiesner for science and technology, and McGeorge Bundy for national security.

They participated recently in two series of lectures published by the Johns Hopkins Press.* Their remarks have a coherence arising from common academic experience and from the shared burden of public responsibility. This coherence is shown by a tendency to liberal points-of-view within the framework of existing policies and institutions.

As the first science and technology adviser, Dr. Killian knew the problem of defining the adviser's function. He states that he has "no sympathy with 'technocracy' or any other concept of government that does not recognize that decision-making must be in the hands of accountable political leaders, practical men, responsible to the people." Yet he knows from experience that the expert "always runs the hazard of being caught in political judgments as he seeks to provide scientific advice."

Dr. Killian discusses the arrangements that have been made in an effort to provide a broad sample of independent, objective, expert opinion. In 1957, for example, when President Eisenhower named him as his special assistant and the Science Advisory Committee was reconstituted, the committee could report directly to the President and name its own chairman, thereby avoiding a pyramidal or monolithic advisory structure, but in fact the committee has seen no danger in choosing the special assistant as its chairman.

*The reviewer has chosen to comment upon the essays of only three lecturers. *Science as a Cultural Force* also includes: "Science and Man's Place in the Universe," by Michael Palanyi, and "Presupposition in the Construction of Theories," by Gerald Holton; and *The Dimensions of Diplomacy* includes: "Reflections on Power and Diplomacy," by Henry A. Kissinger; "The Planning of Foreign Policy," by W. W. Rostow; "Diplomacy and the New Economics," by Adolph A. Berle; and "New Techniques in Diplomacy," by Livingston Merchant.



WHERE SCIENCE AND POLITICS MEET, by Dean Jerome B. Wiesner (above) brings together in one volume (McGraw-Hill Book Company, \$6.95) many papers written during the author's tenure as Special Assistant for Science and Technology to the late President Kennedy. "They represent a running, concurrent account of the 'scientific' issues, which turn out to be the major issues, of the time," Gerard Piel, publisher of *Scientific American*, wrote of these essays in *The New York Times Book Review* (May 2). "For the instruction of his fellow citizens, his writings light up the interface where politics meets science—where politics becomes invested with newly amplified consequences for good or ill and science casts off the certainty imputed to it by the charlatan and the innocent."

While Dr. Killian focuses upon organizational problems and fundamental operational procedures, Dr. Wiesner's essay is concerned with the problem of the allocation of resources for science and technology. History will probably show that he was the first special science and technology assistant to the President who was not preoccupied by the burden of advising on defense and had the freedom to advise regarding allocation in the foreseeable future of substantial resources for achieving nondefense goals. In his essay he lists promising research and development activities which, if substantially funded by the government, could contribute to our social and economic progress. Among these are educational research and development, natural resources development, environmental health research and technology, and supersonic aircraft development.

(Continued on page 50)



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LOSS REPORT

INDEX 85981

FOR
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Philadelphia

BY
A. E. Master
WITH
Mr. C. Term, Maint. Inspv.

DATE OF LOSS Friday, November 20, 1964; 12:30 a.m. EST
LOCATION Building No. 8
DISCOVERY Promptly by employees
OCCUPANCY Core making and core
CONSTRUCTION 1 Sto.; C.I.S.F. Walls; Baking Ovens

DATE INSPECTED Dec. 14, 1964
LOSS-NO. F-8840

DAMAGE TO: Building

OPERATION IN AREA AT TIME OF LOSS? Yes or No
Automatic alarm a factor? No
Duration of Fire 1/2 hr.

Contents
SPRINKLERS IN AREA Dry System - 20 Std. A. C. Floor; C.I.S.F. Roof; Some B.J.
PIPING - BREAKAGE None
LARGE HOSE (2 1/2") NO. STREAM USED None
OTHER APPARATUS USED One small hose by P.F.
WIND None
PROTECTION RESTORED Nov. 21, 1964
CAUSE Ignition of approx. 1:00 a.m. by high pressure boiler pump operated.

CONTRIBUTING TO EXTENT OF DAMAGE: Failure of temperature controls.

DESCRIPTION: Building No. 8, Core Baking Oven fired at 12:30 a.m. on November 20, 1964. At the finish of the oven had been. On and 3/4 of sprinklers operated. Extinction controlled the fire on the fire department.

THE DAMAGE AND, SALVAGE: The damage was an approximate 3 ft. x 3 ft. area of the ventilating and combustion was not damaged was repaired. The oven manufacturer's insulation to determine the extent of damage.

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New Books

(Continued from page 48)

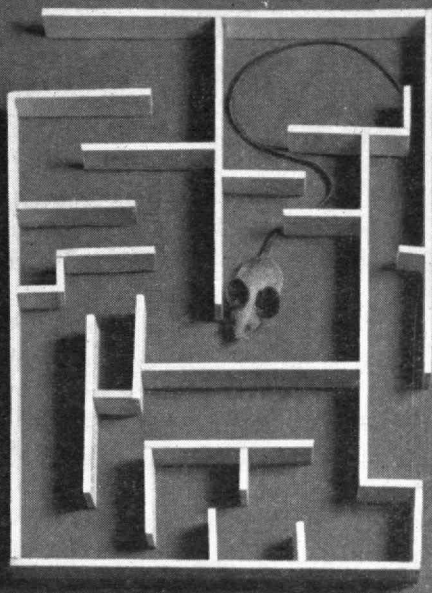
Dr. Wiesner explains his method for establishing a level of governmental expenditure on social and economic research and development (about the same as the annual increase in national productivity), but he does not provide hard and fast priorities and criteria for the allocation of funds among worthy projects. The problem of establishing national values and goals has not been the responsibility of the science adviser, as Dr. Killian observed, but that of the accountable politicians. On the other hand, we would be naïve to expect—and neither Dr. Wiesner nor Dr. Killian seems to—that the people and the politicians now are adequately enough informed about technology and science to relate this power to public purpose.

McGeorge Bundy writes of power and purpose. He believes that technical, economic, and strategic problems will ultimately be problems of purpose. Therefore he maintains that we must constantly define our values and purposes within an environmental flux whose rate of change has been accelerating. (Adviser Wiesner might have found it easier to suggest allocation of resources between environmental health and supersonic aircraft if the American people knew whether they wanted to fly high or live clean.) Dr. Bundy believes that academic institutions especially must constantly scrutinize national values and purpose and "what in consequence may be the purpose of our national power."

He also calls attention to the problem of creating effective means for fulfilling a purpose when it is defined and when the power is available. He writes "there is enough . . . analysis aimed at scholarly vigor and scientific validity . . . perhaps too much system-building in which models of this or that political process are constructed . . . perhaps too much detailed historical recording of political phenomena. People who are locked in the process of government grope for enlightenment from history as a record of the performance of individuals or groups of individuals connected to particular political events." Therefore McGeorge Bundy calls for biographical and case history accounts of "very recent events." He writes that it is hard "to take an issue like the organization of the nuclear defense of Europe and find relevant parallel problems anywhere but in contemporary studies." This is not surprising, for historians have been resistant in the past to the concept of case history and to writing of very recent events.

While the amount of history available which is relevant to Dr. Bundy's problems may seem small, that available to the science adviser and committeeman is minuscule. Not only the historians have seemed reluctant to write of very recent affairs involving science and technology—the engineers and scientists, too, who have helped make this history, seldom have provided the necessary autobiographical material and reminiscences.

(New Books is continued on page 52)



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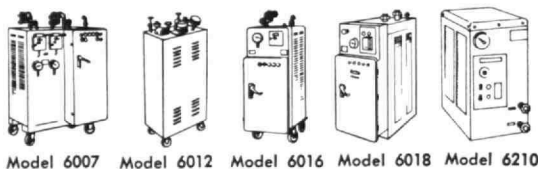




temperature control equipment for industry

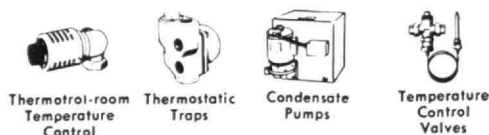
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New Books

(Continued from page 50)

KEY MONUMENTS OF THE HISTORY OF ARCHITECTURE, edited by Henry A. Millon, Associate Professor of the History of Architecture at M.I.T. (Prentice-Hall, Inc., and Harry N. Abrams, Inc., \$9.95).

Reviewed by Timothy K. Kitao, Assistant Professor of History of Architecture, Rhode Island School of Design.

IN THE FIELD of history of art and architecture no textbook is complete without good illustrations. But a book with many large illustrations of high quality tends to be oversize and costly and thus unwieldy. In consequence, illustrations in textbooks are generally modest in size and number, if also in quality. If they adequately "illustrate" the text, they may still be inadequate as vehicles for further discussions. They may serve for identification but not for study and scrutiny. Professor Millon's book is an effort to balance this situation. It is a textbook without text—and a very usable one.

The book was designed as a companion to H. W. Janson's earlier *Key Monuments of the History of Art*, a collection of large—mostly full-page—black-and-white illustrations. The volume was conceived primarily as a visual supplement to any introductory course or survey book on the history of art.

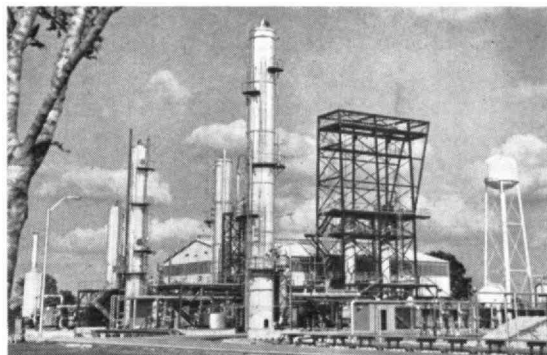
The new volume may appear to defeat this purpose in one respect: full-page plates constitute only a little over half the book, which contains 489 illustrated pages. Two factors seem to have contributed to this decision, and they do more than compensate for the reduction. Printed on glossy paper, the plates are now clearer and more expressive in the effect of light and space. But, more important, the editor has furnished a generous number of accurately scaled and orientated plans, sections, and other diagrams supplementing photographed views so that buildings and sites may emerge more fully in three dimensions.

The book contains 28 chapters in five parts: one, a brief section, on Asia and Pre-Columbian America, and four on major historical periods (Ancient, Medieval, Renaissance, and Modern) with an emphasis on the period 1400-1800. Chapters carry headings that denote, in earlier sections, stylistic categories such as Roman and Byzantine. With more recent materials, however, the system becomes awkward as styles are not always unequivocal, and this includes Baroque and Rococo, the terms the book eschews. The alternative adopted by the editor is classification by century and, when necessary, by country; this is safe and flexible but only at the expense of logic and characterization. It creates bulky headings and perplexing arrangements (for example, Soufflot with Neumann in one chapter and Latrobe with Sullivan in another, or Horta in one and Gaudi in another). One wonders, indeed, why the last chapter must start with 1900 rather than the end

(Concluded on page 54)

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New Books

(Concluded from page 52)

of World War I. Also in its selections, the last chapter probably invites most controversy. But, on the whole, omissions are few in number. One might consider, for example, Ledoux (or Boullée), Butterfield (or Street), Louis I. Kahn, and perhaps more Wright and Saarinen.

Nevertheless, the book is carefully compiled, by and large, and admirably complete. It provides a reliable basic stock of fine illustrations in a handy form at a convenient price. And, furthermore, while it is not a glamorous book, it offers a lasting pleasure of perusal to laymen interested in the history of architecture.

Have You Seen These?

RECENT publications of interest to M.I.T. men include:

The Architecture of Molecules, by Linus Pauling and Roger Hayward, '22 (W. H. Freeman and Co., \$10).

William David Coolidge ['96], *Yankee Scientist*, a second edition of a biography by John Anderson Miller (Mohawk Development Service, Schenectady, N. Y.).

The Estimation of Probabilities, An Essay on Modern Bayesian Methods, by Irving J. Good (Research Monograph No. 30, The M.I.T. Press, \$4.50).

Introduction to the Theory of Relativity and the Principles of Modern Physics, by Huseyin Yilmaz, '54, research associate in Biology at M.I.T. (Blaisdell Publishing Co., \$8.50).

Modern Science and Technology, 81 articles that have appeared in *International Science and Technology*, edited by Robert Colborn, and including essays by several M.I.T. graduates (D. Van Nostrand Co., Inc., \$22.50).

Recent Research on Carnitine, edited by George Wolf, Associate Professor of Physiological Chemistry at M.I.T., with contributions by him and Edward A. Khairallah, '64, research associate in Nutrition (The M.I.T. Press, \$7.50).

Sensory Communication (third printing, student edition, 1964), edited by Professor Walter A. Rosenblith of M.I.T. (The M.I.T. Press, \$7.50).

Books for Young People

TWO ALUMNAE are represented this season in sections of the bookstores where Alumni's names rarely appear:

Bound for Freedom, by Ruth Chessman, '34 (Abelard-Schuman, \$3), is a story for children about two lads sent to Colonial America as bonded servants. It is a lively, sympathetic account of their lives on a frontier near Boston and is generously larded with historical details.

Planning Our Town, by Martha E. Munzer, '22 (Alfred A. Knopf, \$3.95), is an introduction to urban renewal problems for young people. It clearly explains traffic, pollution, and related challenges, emphasizes that every town is part of a larger community, and is beautifully illustrated with photographs.

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James T. Holmes — MIT '14

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Leverage of M.I.T. Abroad

(Continued from page 21)

ther discussions and since then there have been frequent visits to Colombia by Faculty of the Sloan School, and to M.I.T. by Colombians.

The relationship between the M.I.T. Club and the Sloan School has blossomed into a Colombian Sloan Fellows program, one known as M.I.T. Fellows in Colombia, and a Management Seminar program.

The Colombian Sloan Fellows

As an important step toward strengthening the management faculties in Colombia, qualified staff members of Colombian universities have been welcomed to the Sloan Program of Advanced Management Education at M.I.T. for one year, with the financial assistance of the Ford Foundation. The first group of Colombian Sloan Fellows at M.I.T. has included Miguel Bernal and Alberto Ghitis of the University of Valle, Luis B. Upegui of the School of Administration and Finance and Carlos García Reyes of the University of the Andes. It is hoped that over the next few years from 15 to 20 Colombian professionals will participate in the Sloan Program, thus strengthening the faculties where they will return to teach. As a by-product of this program there has been a reverse flow, which could eventually become a separate program in itself. Two of the United States participants in the Sloan Program have chosen to write their dissertations on Colombian management problems. They spent five weeks in Medellín, working with the planning department of COLTEJER, Colombia's largest textile mill and one of the country's leading corporations, whose president incidentally is also president of the M.I.T. Club, Rodrigo Uribe, '41. The encouraging results of this first experiment may allow for its continuation.

M.I.T. Fellows in Colombia

Professor Wilson accompanied Dean Johnson on his second trip to Colombia and numerous proposals were discussed and considered in the light of Professor Wilson's experience in development efforts elsewhere. In a memorandum to the Colombian Embassy, Dean Johnson and Professor Wilson then wrote:

In the course of our recent visit to Colombia, we were very much impressed by the vigor and stage of advanced development of the institutions and the economy of Colombia. We were also impressed by the competence of the people we met occupying key positions in various institutions which are playing a leading role in this economic development. . . .

The diversified base of the Colombian economy and geographical spread of development institutions impose a strain on the supply of managerial talent. This is true in any economy at any stage of its growth, but becomes acute at a time of rapid growth.

Now a program has emerged that is similar to the M.I.T. Fellows in Africa but takes into account the different stages of development of the Colombian society.

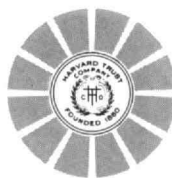
(Concluded on page 58)



This photograph was taken on Memorial Drive in Cambridge, just minutes away from a Harvard Trust office. There's one just minutes away from you, too.

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Leverage of M.I.T. Abroad

(Concluded from page 56)

Starting in September, 1965, the Sloan School of Management will nominate graduates of the Master's Degree Program in Management at M.I.T. as candidates for employment in specific jobs, previously selected, in development institutions of Colombia. The Colombian institution will hire the M.I.T. fellow on a two-year contract basis as an employee, paying him a salary comparable to that of a Colombian of similar experience and responsibility. This program, which will also have Ford Foundation support, will both provide M.I.T. Fellows with experience in the development process and make an important contribution to Colombian development.

Management Seminar Program

This summer, a Management Seminar will take place in the University of the Andes in Bogotá, sponsored by the Sloan School of Management and the M.I.T. Club with the co-operation of the Colombian Management Association and Uni Andes. Part of it will be geared to senior management and part to specific projects in Colombian firms at the plant manager and staff levels. The first contingent of Colombian Sloan Fellows will have returned by this summer and be available as assistants to the M.I.T. professors in charge of the seminar.

In most of what has been accomplished, the M.I.T. Club has provided the spark, but the Institute has contributed the needed thrust and momentum. The Club's role has been that of a promotional agent and catalyst, and its contribution, necessarily modest and limited, will not produce results that are immediately noticeable. But we are confident that the projects that the club has undertaken and those presently under way will have an important qualitative effect on technological education in Colombia that is bound to accelerate the modernization and growth of our economy. The club's members, by maintaining their identity as Alumni and acting as a group, have been able to exert an enormous leverage for progress, and their community has profited in the discovery of the true meaning of M.I.T.: the pursuit of excellence plus a sense of public responsibility.

MAC on the Early Bird

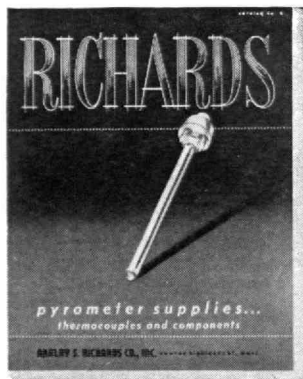
PROFESSOR Robert M. Fano, '41, Director of M.I.T.'s Project MAC, was interviewed this spring by Professor Stanley Gill of the University of London for a British TV program utilizing Early Bird. Professor Gill knew of the work under way at M.I.T. with computers, and suggested that it be demonstrated in a series about "Machines of the New Age" being prepared in Manchester for the United Kingdom's independent television network.

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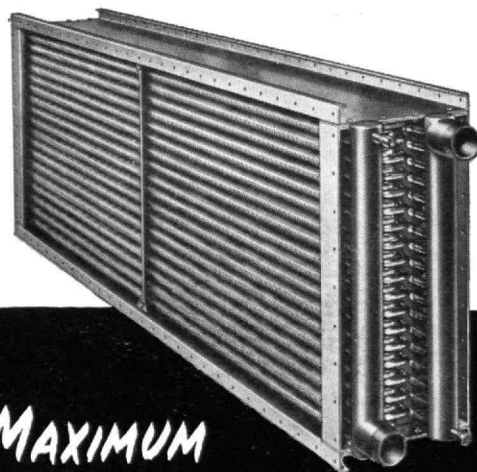
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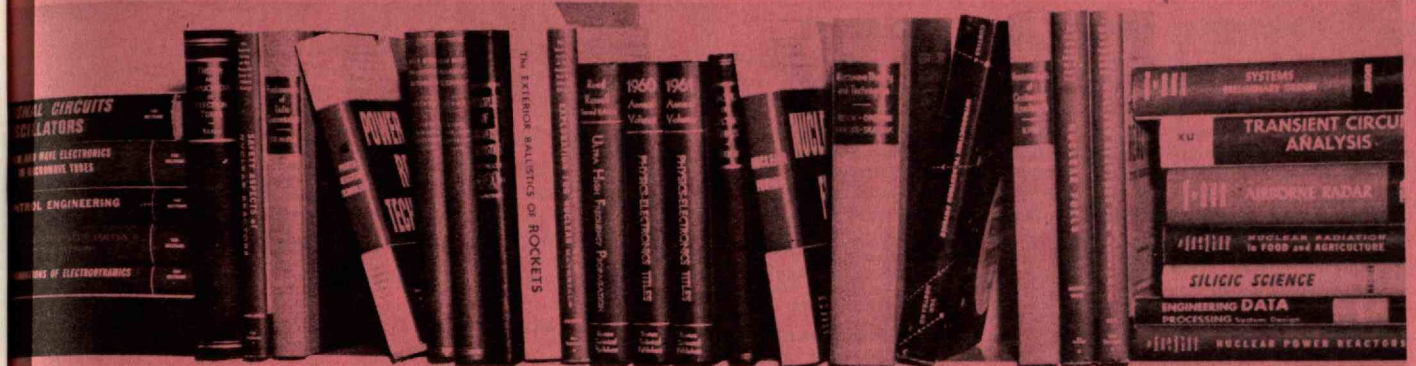


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Rudolf G. E. Hutter, Chief Engineer of Special Tube Operations, Genia Electric Products, Inc. *The Van Nostrand Series in Electronics and Communications.* (1960). Pp. xii + 378, Illus. Written to give students and engineers a basic understanding of the operating principles of microwave tubes, this study brings together pertinent and original contributions by workers in all parts of the world. Covers an impressive range of microwave devices, from klystrons and magnetrons to the most recent traveling-wave tubes, with the material arranged to achieve a uniformity of presentation and approach. Wherever possible, the author presents this material in a form close to the original to enable the reader to study the reference with a minimum of difficulty. Contents: Introduction; High-Frequency Considerations in Electron Tubes; Phenological Description of Microwave Tubes; Simple Waveguides; Cavities; Waveguide Concepts; The Periodically Loaded Waveguide; Beams in Gaps; Beams in Regions; Beams in Slow-Wave Guides; Theory of Crossed-Field Tubes With Beams; Theory of Crossed-Field Tubes With Thick Beams; Energy Conversion; The Operation of Microwave Tubes in Terms of Waves and Mode Coupling; Appendix I—Table of Laplace Transforms; Appendix II—Table of Z-Transforms.

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Donald D. King, Vice President and Director of The Research Division, Electronic Communications, Inc. *The Van Nostrand Series in Electronics and Communications.* Pp. vii + 327, Illus. Comprehensive and up-to-date discussion of the principles and methods of measurement in the very high frequency and microwave regions. The book covers antenna measurements, including material on surface currents and their measurement as well as polarization formulas, charts, and measurements. Included also are: Compact tabulation of basic formulas with quick references—complete schematic diagrams of experimental equipment with sketches to illustrate complicated or unusual pieces of equipment. Many graphs and line charts illustrate the methods used.

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Y. H. Ku, Professor of Electrical Engineering, The Moore School of Electrical Engineering, University of Pennsylvania. *The Van Nostrand Series in Electronics and Communications.* (1961). Pp. xiv + 441, Illus.

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Contents: Introduction; Solution of Ordinary Differential Equations; Linear Network Analysis; Fourier Series and Fourier Integral; Fourier Transform; Laplace Transform; Laplace Transform (Continued); Functions of a Complex Variable; The Z-Transform; Transients in Transmission Lines; The Z-Transform and the Laplace Transform; Appendix I—Taylor-Cauchy Transforms for Nonlinear Systems; Appendix II—Difference and Sum Equations; Appendix III—The Transformable Method for Linear and Nonlinear Systems with Random Inputs; Appendix IV—Table of Laplace and Fourier Transforms.

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Moon and Spencer—

FOUNDATIONS OF ELECTRODYNAMICS.

By Parry Moon, Associate Professor of Electrical Engineering, Massachusetts Institute of Technology; and Domina Eberle Spencer, Associate Professor of Mathematics, University of Connecticut. *The Van Nostrand Series in Electronics and Communications.* (1960). Pp. vii + 314, Illus.

Here is a logical, closely knit development of electrodynamics that covers most engineering applications with maximum simplicity and minimum ambiguity. The authors achieve unity by adopting consistent solutions to three basic questions of method:—Historical or logical sequence?—Macroscopic or microscopic formulation?—Relativistic or Nonrelativistic treatment?

Contents: Fields; Basic Concepts; Maxwell's Equations; Charges With No Relative Motion; Charges in Uniform Motion; Accelerated Charges; Skin Effect; Waves; Waveguides; Antennas; Moving Systems; Relativistic Electro-Dynamics. Appendix.

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By Gordon J. Murphy. *The Van Nostrand Series in Electronics and Communications.* (1959). Pp. xii + 385, Illus.

A mathematically sound treatment of modern automatic control theory, this book draws its problems and illustrations from many fields, including process control, fire control, inertial guidance and nuclear reactor control. *Control Engineering* surveys, at a more elementary level, many of the topics covered in *Basic Automatic Control Theory*. The detailed discussion of time response includes a presentation of Laplace transformations which is used extensively throughout the book.

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This new full-year text presents the theory and techniques of network analysis in a unified form, applicable both to transients and to problems limited to the sinusoidal steady state. Throughout, it deals with both passive and active linear lumped finite circuits, developing and using the Laplace transformation as the basic analytical tool.

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Prepared by the Staff of the Radio Research Laboratory, Harvard University, N.D.R.C., under the editorship of Herbert J. Reich, University, and developed under the sponsorship of the Office of Scientific Research and Development.....Pp. 1047

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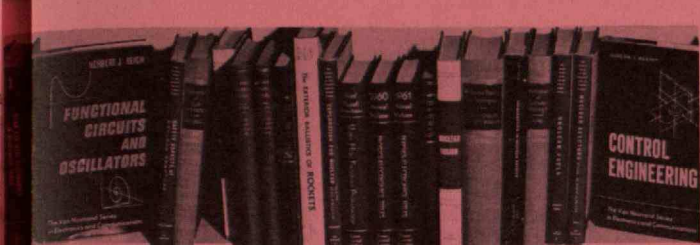
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By Yu. M. Shashkov. Authorized Translation from the Russian by J. E. S. Bradley, B.Sc., Ph.D. (1961)..... Pp. viii + 183, Illus.

In this up-to-date survey of semiconductor metallurgy, the two main semiconductor materials — germanium and silicon — and their physical and chemical properties are discussed. A detailed review of chemical methods of purifying these elements is followed by a description of metallurgical methods of purification. Partition coefficients are given for many impurities, and apparatus used in purification is surveyed. Methods of growing single crystals are treated in an excellent chapter, with the method related to the type of defect to be expected in the finished crystal. Of particular interest is a discussion of alloying and doping. The last section of the volume deals with heat treatment and diffusion of impurities, production of rectifiers and transistors, and methods of etching crystals and finished devices. Technologists concerned with industrial processes of established value, as well as graduate students, will find this book of great value. A selective bibliography of 293 references is included.

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By A. G. Gurevich. Authorized translation from the Russian by A. Tybulewicz, B.Sc., M.I.Inf.Sc (1963)..... Pp. vii + 329, Illus.

The first part of this book discusses magnetic properties of ferrites in weak microwave electromagnetic fields. Part Two deals with electro-dynamics of media with tensor parameters, which include magnetized ferrites, and with the propagation of waves in waveguides containing ferrites and the properties of cavity resonators with ferrite samples in them. Nonlinear processes in ferrites (frequency doubling and conversion, parametric generation and amplification), appearing in strong alternating fields, are discussed in Part Three. This volume's comprehensive treatment of experimental and theoretical data on the behavior of ferrites in the range of ultra-high frequencies makes it the first of its kind and an invaluable addition to the literature in the field.

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By K. P. Belov. Authorized translation from the Russian by W. H. Furry (1961)..... Pp. xiv + 242, Illus.

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By J. J. Jerger, Engineering Consultant. "Van Nostrand Guided Missile Design Series." (1960).....Pp. xii + 625, Illus.

This unifying volume in the series presupposes a knowledge of the various components of a missile system and illustrates how these components may be integrated into a preliminary missile design near optimum for given performance specifications. A wealth of tables, diagrams, and design data effectively supplement the text.

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By Donald J. Povejsil, Director, New Product Service; Robert S. Raven, Advisory Engineer, Weapons Systems Development, both at Westinghouse Electric Corporation; and Peter Waterman, Head, Equipment Research Branch, U. S. Naval Research Laboratory. "Van Nostrand Guided Missile Design Series." (1961).....Pp. xx + 823, Ill.

In today's complex weapons systems, where airborne radar is often the primary limiting requirement, an understanding of principles and techniques is becoming increasingly essential. Designed to provide an understanding of basic radar technology and its relation to overall weapon system design, this volume emphasizes basic principles and system analysis techniques, and how mathematical models may be developed to solve radar design problems.

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By Leverett Davis, Jr., California Institute of Technology, Pasadena; James W. Follin, Jr., Applied Physics Laboratory, John Hopkins University; and Leon Blitzer, Professor, University of Arizona. (1958).....Pp. v + 457, Ill.

Here is the basic theory of the exterior ballistics of rockets without involving control surfaces. Emphasis is placed on the physical understanding of rocket behavior as well as on the mathematical formulation of the theory.

Contents: Introduction. Fin-Stabilized Rockets: Description of a Fin-Stabilized Rocket and Its Force System; The Motion During Burning; The Launching Problem; The Motion After Burning; The Ballistics of Rockets; Fired Forward From Air; Spin-Stabilized Rockets: Introduction to Spin-Stabilized Rockets; Description of a Spin-Stabilized Rocket and Its Force System; The Motion During Burning; The Motion After Burning. Appendix; Index.

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(Concluded from page 41)

noulli, established the fundamental principles of the calculus of probabilities. There is as yet some doubt as to the precise origin of this particular volume because there is included in it a 30-page letter from Bernoulli to a friend and an errata end sheet, neither of which appears in standard catalogues of rare books.

Newton's original "Principles" was published in 1687. In it, Sir Isaac laid the foundations of modern physical science and his book is probably the most influential scientific publication of the Seventeenth Century. The work was written in Latin under the title *Principia* and it was not until 1729 that it appeared in English.

The other books in the M.I.T. Kelly collection are:

Louis Pasteur, *Memoire sur la Fermentation Appelee Lactique*, published in Paris in 1857. This is the work in which Pasteur founded the field of bacteriology and is based on his discovery and isolation of the micro-organisms that cause milk to sour.

Pierre Simon de Laplace, *Traite de Mechanique Celeste*, five volumes published over the period 1798 to 1827. Termed the sequel to Newton's "Principles," this is the book in which Laplace dealt with the general laws of mechanics, gravitation, and the motion of celestial bodies.

Antoine Laurent de Jussieu, *Genera Plantarum*, Paris, 1789, the



An illustration in "Mathematical Principles of Natural Philosophy."

basis of modern natural classification of plants.

Nehemiah Grew, *The Anatomy of Plants*, London, 1682, in which the scientist reported the first observation of sex in plants and began the microscopic study of plant anatomy.

Michael Faraday, *Experimental Researches in Electricity*, Vol. I, London, 1839. This is the first of the three-volume "Researches" published between 1839 and 1855. "Researches" was Faraday's major work and reports physical experiments that were the basis for further advances by James Clerk Maxwell. The first paper in Vol. I describes the principle of the dynamo.

William Beaumont, *Experiments and Observations on the Gastric Juice*, Plattsburgh, N.Y., 1833. Dr. Beaumont was the first to observe and report the physiology of digestion. He took advantage of an un-

healed wound in the stomach of one of his patients to make long observations of the digestive tract and his book has been termed the greatest single contribution to knowledge of gastric digestion.

Claude Bernard, *Nouvelle Fonction du Foie*, Paris, 1853. In this book the great pioneer physiologist gave his remarkable and original exposition on the function of the human liver.

Hugo De Vries, *Die Mutations-theorie*, 2 vols., Leipzig, 1901-1903. It was De Vries who discovered, revealed, and proved the importance of the work of the Nineteenth Century Austrian priest, Gregor Johann Mendel, who established the theory of genetic heredity, but who was because of his obscurity, unknown to science for nearly 40 years. De Vries took up Mendel's work and extended the theory of mutations.

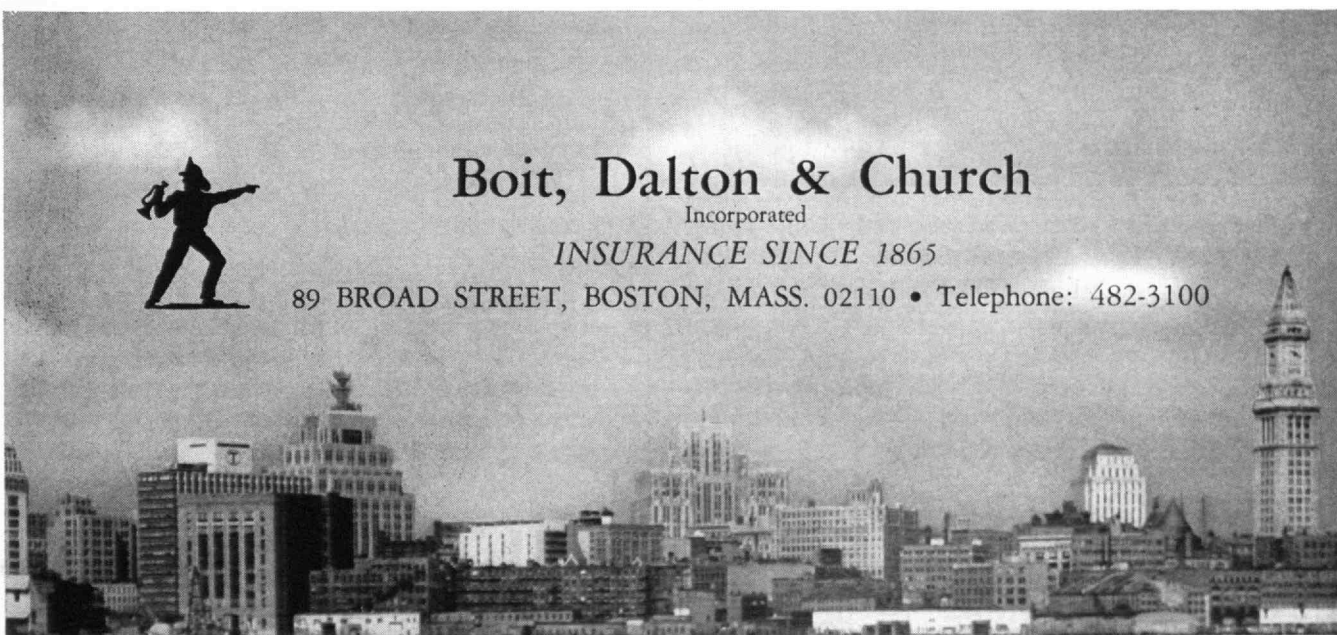


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Culture Gap in Kakamega

(Concluded from page 27)

and danced to the music—to the mixed delight and embarrassment of the group. The first song—with improvised Swahili lyrics—claimed that white men eat eggs and that one particular white man hires litungu-players for a small fraction of their proper worth. The performance was quite a success and his explanation of the simple but ingenious construction of the instrument even elicited a couple of questions. But in the weeks that followed no one wanted to try to make a litungu and the boys seldom touched the one which the musician made and sold to me.

The music-making club flourished on the guitar. The group made three playable guitars and also used a couple of factory-made instruments. It is ironic that, although the guitar-picking in the current African popular recordings which they emulate is quite accomplished, the songs are repetitious, harmonically oversimple, and quite inferior to those sung with the litungu which is often tuned in a minor key.

Shall we conclude then that a rich tradition is being lost, spurned by those whom we might have hoped would be its proponents? I think the explanation is not that the students have rejected the traditional music and the rest of their cultural heritage but that they feel uncomfortable with it within the school environment. This feeling seems to diminish after the student has become a little more secure in his knowledge of the

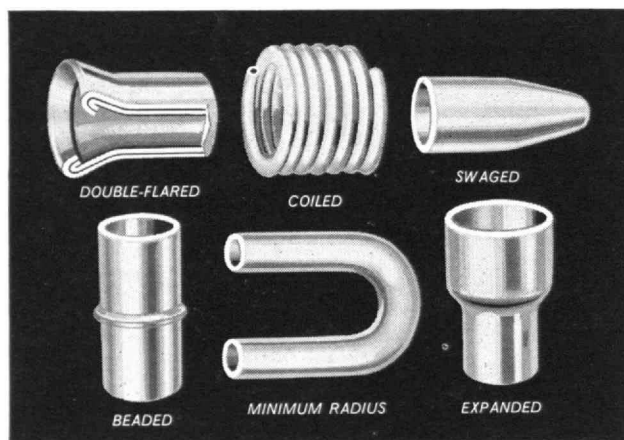
outside world and his need to exalt himself by degrading his people decreases.

This observation is supported particularly by the behavior of the brightest and most adaptable students, many of whom go overseas to universities. When they return to their native country, they usually are anxious to develop it into something quite different from what it has been, but they are not hostile to the past and can be counted on to preserve what is of interest and value in the modern world. Even the less successful boys are laying the groundwork for the future—their children, who will be born into more modern homes, will have a much easier adjustment.

M.I.T.'s Influence in Africa

PROFESSOR Carroll L. Wilson, '32, who began the M.I.T. Fellows in Africa Program four years ago, addressed the Alumni Council on April 26. He stressed the great and varied needs of developing countries in Africa for assistance such as the Institute can help provide. As a world center of innovation, he said, M.I.T. can influence attitudes and programs throughout the world. Properly placed in an underdeveloped country, a young Alumnus can both do work of real significance there and gain meaningful personal experience. Professor Wilson expressed little optimism, however, for early solution of such countries' problems. We can look forward, he opined, to many years of long and difficult activity in helping other nations develop their resources.

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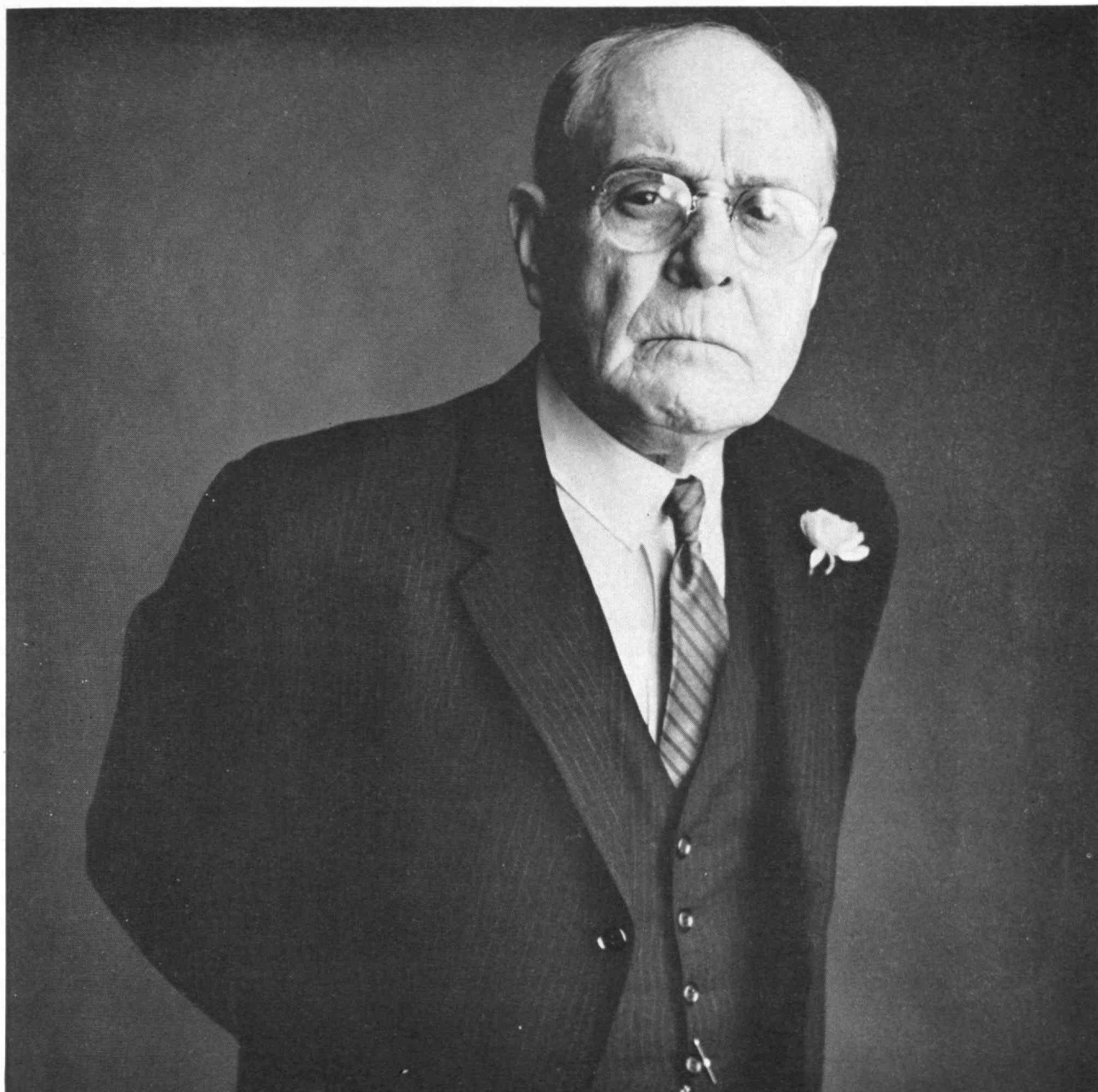
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Worse — a good part of what's left after taxes, claims and settlement costs may well end up in the wrong hands (that awful cousin in the advertising business, for instance).

Lots of people are in this boat. And it's a constant source of amazement to us.

For it is so easy (and in the long run so inexpensive) to have your Will drawn by a lawyer — a man who has the experience and the training to do it right... and it's so expensive, so wasteful, so downright unfair to your heirs *not* to!

We hope this will remind you to see your lawyer about your will (if you haven't already) and to keep it up to date. If you think there might be a place for us in the picture — as executor or trustee — won't you call on us?

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Swift Feedback in Survey Research

(Continued from page 47)

tionnaires, they were collected and the answers to the five questions noted above were entered into the computer on a teletype console. A special program prepared in advance then was used to compute frequency distributions, means and correlations. The computations on Project MAC took 1.29 minutes. Had these computations been performed at a desk calculator, they would have required—on the basis of a small-scale experiment I conducted—about 123 hours. About one hour after the questionnaires were collected, the results of the statistical analysis were reported to the audience.

The members of the audience seemed to be greatly interested in the report, and I was strongly tempted to ask them for their reactions to the feedback—in other words, to obtain a feedback on the feedback. Instead, I sent a questionnaire later to those who had participated in the meeting, asking (a) "What did you think of the idea of getting immediate feedback on a questionnaire you filled out at the meeting?" and (b) "What did you think of the findings reported in the immediate feedback?" Of the 70 mailed questionnaires, 35 were returned within three weeks. Of this group, 83 per cent expressed enthusiasm about the idea of immediate feedback. Their reactions to the findings, however, were highly critical: 73 per cent thought the results reported were either inconclusive because the sample was too small and unrepresentative of the population of engineers, or unclear and difficult to assimilate because of their unfamiliarity with statistics. These negative reactions highlight some of the problems social scientists will have to solve in presenting the results of an on-line experiment such as this.

This experiment stimulated a train of speculations and several lines of inquiry. Why could not virtually "instant" feedback be provided rather than "immediate" feedback? In the experiment that I have described, there was no disadvantage in delaying the feedback for an hour in order to give the panel members and the audience a chance to discuss the topic of the meeting. But in a decision-making conference of a governmental, business, or a professional organization there might be an advantage in providing "instant" rather than "im-

mediate" feedback. To provide an "instant" feedback of the results of a survey, it would be necessary for each member of the audience to have a data "input keyboard" on which to answer the questions directly. This equipment might consist of a touch-tone telephone set connected to a computer (and a buffer to store all of the data fed into it), a "data-phone" set, or a modification of such equipment so that the respondent could see his answers printed out on a tape and thus have an opportunity to correct any typing errors. Given such equipment, it would take only seconds to have all the data computed and available. Similar equipment is already available in many brokerage offices for obtaining "instant" quotations on stock prices.

The second idea which the demonstration experiment stimulated was to use an on-line real-time computer for educational purposes. In high school or university courses where large numbers of students are involved, the material presented by the instructor could be punctuated every 20 minutes by a test question. The students in the audience could record their answers to the question on a data input keyboard and a computer program could process the answers to inform the instructor, and perhaps also the students, as to the proportion of the answers that was correct. Depending on the proportion of the students answering the test questions correctly, the instructor could decide whether to proceed at the same pace, to increase or slacken his pace, or to explain again some of the material he had presented to make sure that more of the students understood it thoroughly. Whether the use of immediate feedback in this kind of educational situation would increase the motivation of the students is a question worthy of investigation.

The same procedure could also be used for educational TV where the audience consists of many thousands of people dispersed over a large geographical area. Given the feasibility of having students in a TV audience answer the test questions on special data input keyboards, the instructor on TV could know at once where he stood as regards the audience's comprehension and adjust his lecturing pace accordingly.

The third idea that the demonstration experiment stimulated concerns the implications for social science.

(Concluded on page 68)

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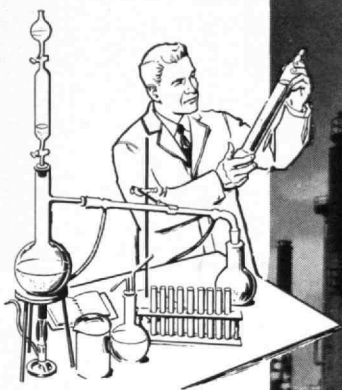
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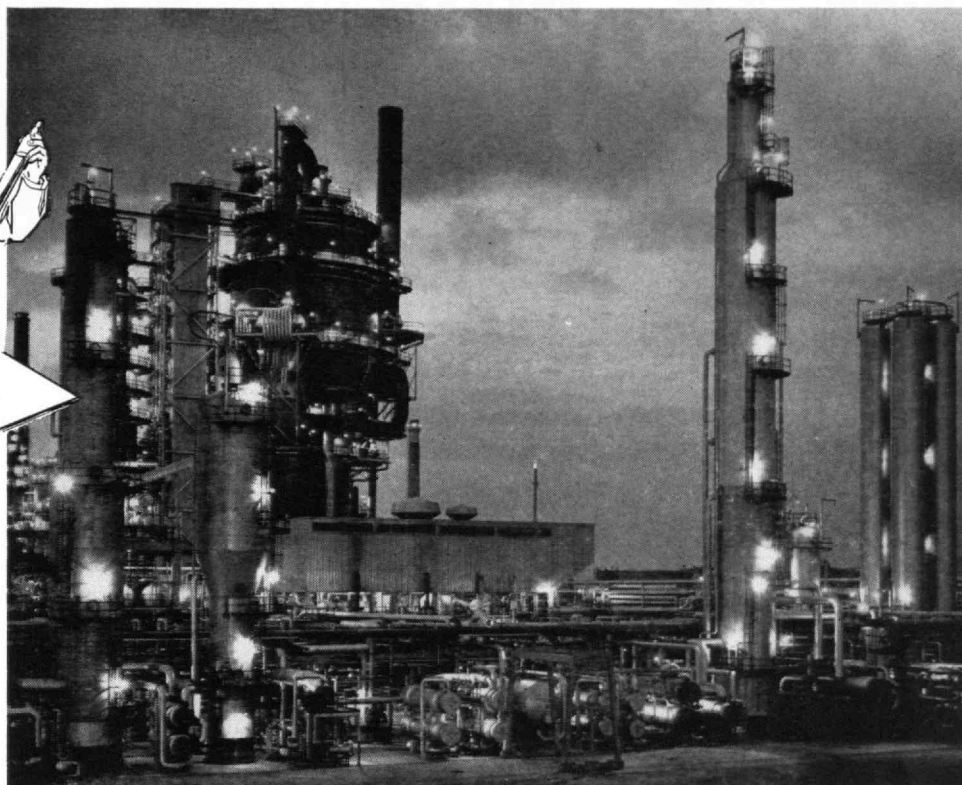
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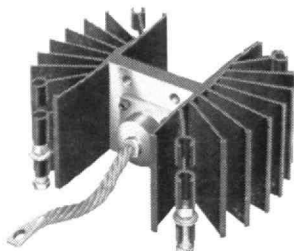
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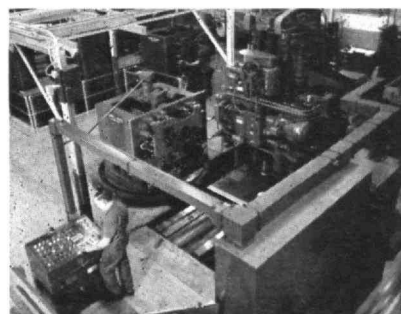
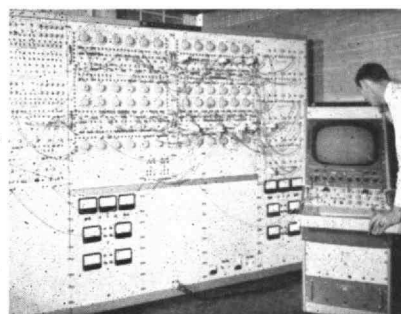
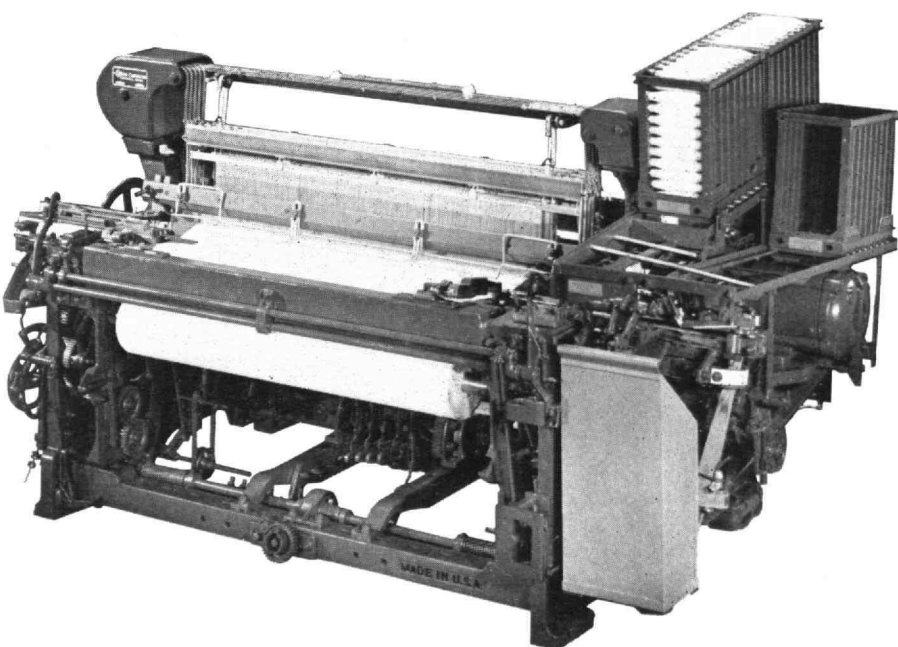
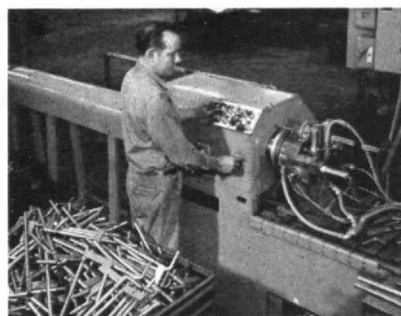
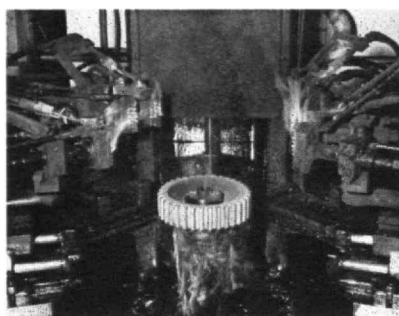
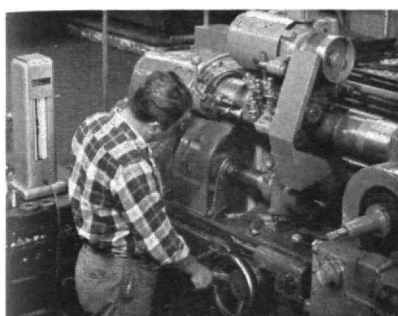
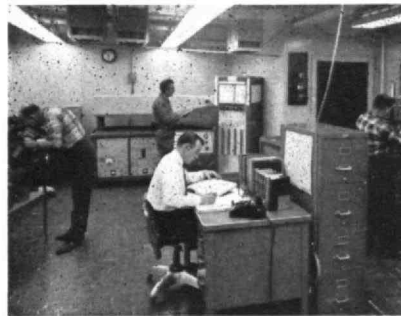
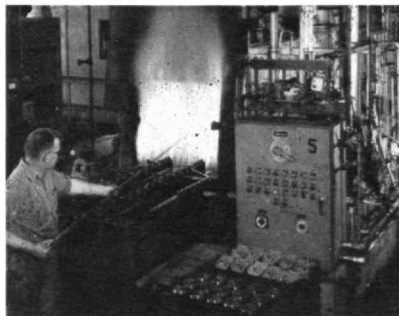
Swift Feedback in Survey Research

(Concluded from page 66)

As I have indicated, immediate feedback would probably increase the chances of access to organizations and hence facilitate social science research on problems of organizations. Secondly, it would greatly reduce the time and cost of processing social science data, although a substantial amount of resources would be required for the preparation of computer programs for real-time systems. Error routines could, of course, be developed to reduce the rate of mistakes made by a respondent in recording his answers on a data input keyboard. Whether this new method of answering questionnaires, as opposed to the prevailing methods, would encourage people to be more candid in their responses is a question that would have to be studied experimentally. As a result of conducting this demonstration experiment, I have since designed a laboratory experiment to ascertain whether people are more candid or less candid when answering questions directly into a computer than when filling out a questionnaire in the conventional manner.

Yet another idea stimulated by the demonstration experiment described above is that "immediate" or "instant" feedback via computer technology could be used for political purposes. With the help of a magnetic card—now being developed for economic transactions—which could be inserted into a special telephone set and which a computer program would recognize if it bore a legitimate number, every registered voter could vote in his own home without worrying about the weather. Thus, participation in the democratic process could be appreciably increased. Such an innovation would make it technologically possible for citizens to register their views more often than once in four years and even more often than once in two years, thus possibly helping to counteract political apathy. The possibility of corruption of the ballot could be reduced by a computer method of recognizing only once the valid number on the magnetic card that each registered voter would possess. When and if such a method were employed in local, state, or national elections, due precautions would be necessary, however, to prevent counterfeiting and transferring of magnetic cards.

These are but a few illustrations of the potentialities of immediate feedback via real-time computers that might some day be realized. A substantial number of large real-time computer systems are already in being. Some notable examples are the many Department of Defense Command and Control Systems, SAGE, communication switching centers, and airline reservation systems. The present and potential applications of computer technology I have mentioned are instances of the benefits to be derived from technological progress in our "post-industrial civilization." On the other hand, the potential uses of computer technology for invading privacy and thus threatening individual liberties in a democratic society present a problem which clearly deserves forethought, research, and preventive action via legislation. In short, scientific and technological progress need not necessarily usher in a "brave new world."



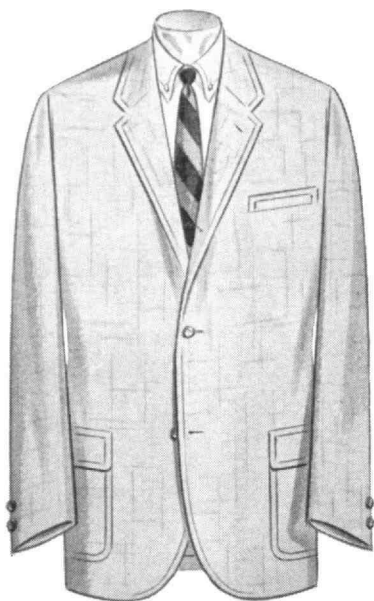
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Individuals Noteworthy

(Continued from page 16)

Honors to Alumni

RECIPIENTS of recent awards and similar distinctions have included:

Henry H. Blau, '20, the Albert Victor Bleininger Award for Distinguished Achievement in Ceramics, by the Pittsburgh Section, American Ceramic Society . . . *Robert C. Seamans, Jr.*, '42, the Distinguished Service Medal, by the National Aeronautics and Space Administration;

George P. Conard, 2d, '52, the 1965 Bradley Stoughton Award, by the Lehigh Valley Chapter, American Society for Metals . . . *Norman F. Ness*, '55, the John Adam Fleming Award, by the American Geophysical Union, National Academy of Sciences-National Research Council;

Kenneth W. Graham, '60, the Commendation Medal, by the U.S. Air Force, for meritorious service in the Gemini launch vehicle directorate . . . *Raphael Soifer*, '63, as a Baker Scholar, by the Harvard Graduate School of Business Administration . . . *William E. Pedersen, Jr.*, '64, a Rome Prize Fellowship, by the American Academy in Rome.

Edward S. Chapin: 1877-1965

A FAITHFUL leader in M.I.T. alumni work and nationally known authority on dyes and colors, Edward S. Chapin, '98, died in April. Mr. Chapin had served his class as president and secretary for many years.

He was formerly associated with the American Dyewood Co., the Calco Chemical Co., and the Durfee Co. During World War I, he toured the country instructing concerns in the production of scarce dyes, and spent four years afterwards in Paris with the American Textile Alliance.

Mr. Chapin left two sisters, both of Marblehead, Mass.

G. W. Hamblet: 1865-1965

M.I.T.'s oldest Alumnus, George W. Hamblet, '88, died in Lawrence, Mass., in March. He had taught at the Institute in the 1890's, and subsequently was a leading industrialist, banker, and community benefactor in Lawrence. He left three sons and two daughters.

(Concluded on page 73)

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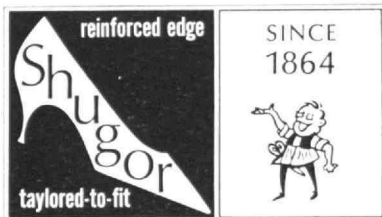
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Class of 1926

Individuals Noteworthy

(Concluded from page 70)

Honored Students

KARL TAYLOR COMPTON prizes went this spring to Michael A. Efron, '65, Norman S. Kaderlan, '65, Henry A. Lichstein, '65, Steven B. Lipner, '65, Jeffrey A. Meldman, '65, Matt L. Mleziva, '65, James W. Taylor, '65, Richard W. Tsien, '65, and the Association of Women Students for its American Women in Science and Engineering symposium, of which Mrs. Peter T. Van Aken (Carol Gustafson, '65) was chairman.

Each Compton winner received a silver tea service inscribed with a citation.

The Scott Paper Foundation Leadership Award was won by John M. Mazola, '66, and the Admiral Edward L. Cochrane Award by William R. Brody, '65.

Richard I. Karash, '68, received the Tau Beta Pi Outstanding Freshman Award; and Baton Society Awards went to Richard J. Diephuis, '65, Richard N. Gray, '65, Brian D. Hanson, '65, Paul W. Kasameyer, '65, William F. Purves, Jr., '65, and Gerald A. Zaritzky, '65.

The Clifford Award to an outstanding senior athlete went to Robert B. Grady, '65. James L. Larsen, '65, won the Eastern College Athletic Merit Medal; Barry L. Gerken, '66, was named Manager of the Year; and Quadrangle Club Awards went to John C. McFarren, '68, and Norman E. Hawkins, '68.

Winners of William L. Stewart, Jr., Awards were Charles K. Epps, '66, Donna G. Hayes, '66, Paul W. Hoff, '65, John E. Leide, '65, Adam C. Powell, 3d, '67, and to Alpha Phi Omega, the Gilbert and Sullivan Society, and Tech Show.



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Trend of Affairs

(Continued from page 40)

Nutrient Absorption Studies

THE JOHN A. HARTFORD Foundation, Inc., has granted \$220,065 to Dr. Seymour J. Gray to support studies for three years of how disease and malnutrition can alter the way the body absorbs nutrients from ingested foods.

Dr. Gray is associate clinical professor of medicine at the Harvard Medical School, a member of the staff at Peter Bent Brigham Hospital, and currently a visiting professor in the M.I.T. Department of Nutrition and Food Science. His studies will be focused on the intestinal absorption of amino acids, fatty acids, and minerals, and he will work with subjects hospitalized at M.I.T.'s new Clinical Research Center, a small research hospital established under a grant from the National Institutes of Health.

Nutrient absorption from foods occurs through tiny hair-like cells, called *villi*, that line the walls of the intestinal tract. Dr. Gray hopes to determine how diseases, diet, and nutrition affect ability of the villi to absorb nutrients and transport them into the blood stream.

Amino acids are commonly thought of as the molecular building blocks the body uses in manufacturing proteins, while fatty acids are used in the synthesis of fat.

Dr. Gray has been making base measurements of absorption rates in healthy normal subjects for some time, using a new measuring technique. Subjects swallow a thin double-channel tube. A saline solution containing a pre-measured concentration of amino acids, fatty acids, and minerals is pumped lightly into one of the channels and flows into the upper intestines through a hole in the channel side. The second channel also has a hole 30 centimeters from the first. Light suction is applied to the second channel to draw out intestinal fluid. Nutrient concentrations in aspirated fluid subtracted from nutrient concentrations in the infusion fluid, compared with time, yields the absorption rates.

Dr. Gray has found that absorption rates are surprisingly uniform in normal subjects. His future studies will be extended to subjects with disease or nutritional problems. These include patients with coronary disease, obesity, protein malnutrition, etc.

(Concluded on page 77)

DID YOU KNOW

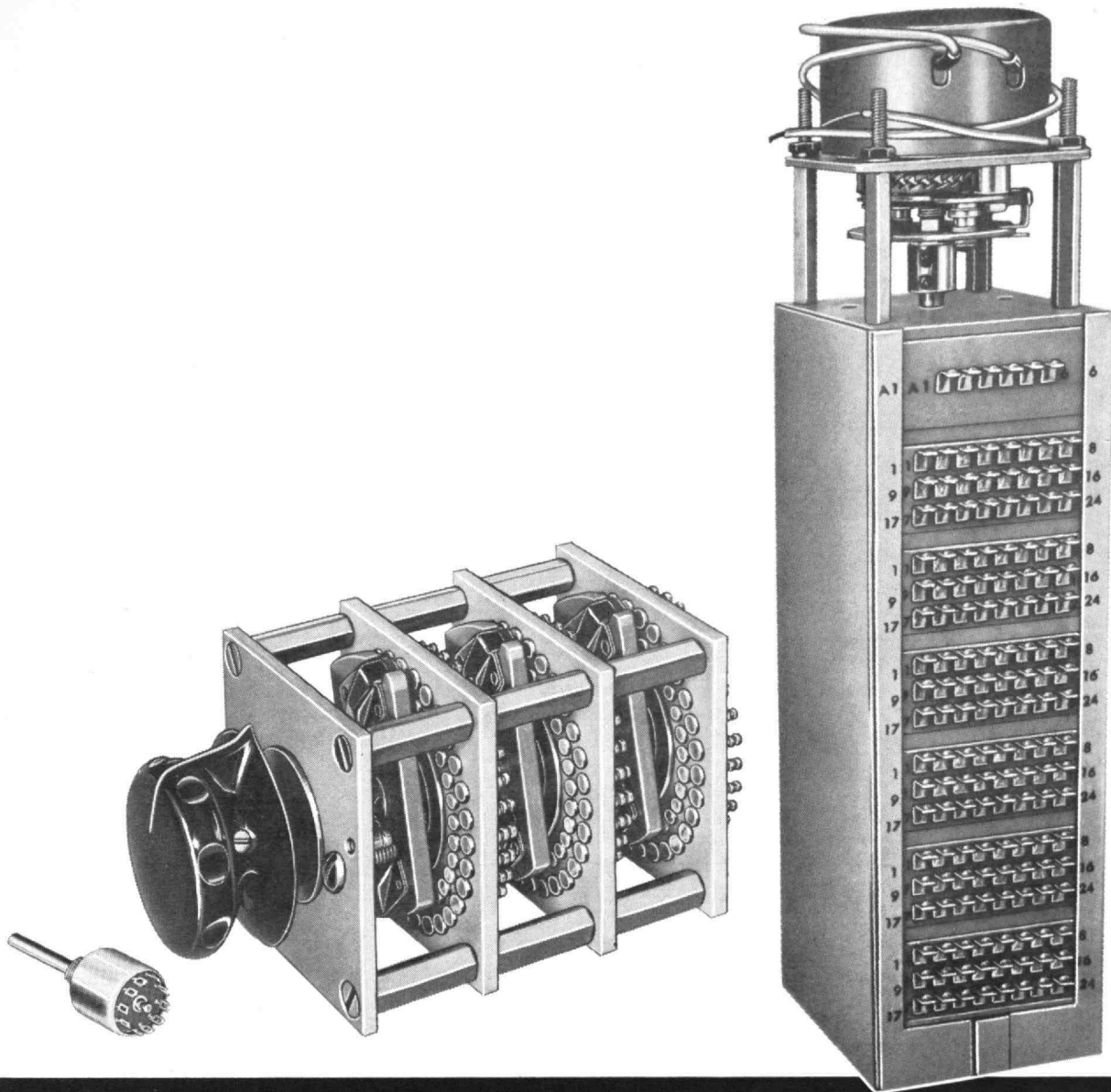
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The New England Primate Center

AWARD of an \$1,850,000 contract for construction of the New England Primate Research Center at Southboro, Mass., was announced this spring by Dean George P. Berry of the Faculty of Medicine, Harvard University. The contract brings the construction cost for the research complex to \$2,400,000.

Harvard is developing the center in collaboration with M.I.T., Boston University, Dartmouth College, Tufts University, the Worcester Foundation for Experimental Biology, and the Research Hospitals of Greater Boston, under a grant from the Division of Research Facilities and Resources, National Institutes of Health, U.S. Public Health Service.

The center's purpose is to create optimal research opportunities in an academic environment for those who wish to pursue research related to subhuman primates.

Among the various types of research to be undertaken will be those that seek basic information on the primate as an experimental animal and that help to establish preferred species for research related to human health problems.

Construction of the building to house administrative offices, research laboratories, and holding facilities for various species of monkeys is expected to be completed in the spring of 1966.

Coming Events on Campus

GRADUATION exercises for the M.I.T. Class of 1965 will be held on Friday, June 11, and the principal speaker will be President Julius A. Stratton, '23.

Alumni will have their day on the campus on Monday, June 14, and the Summer Session will begin the following Monday, June 21. Numerous short courses in special subjects will be offered again this year.

The sixth Alumni Officers' Conference will begin September 9, and the 1965 Alumni Seminar, September 11.

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Institute Yesteryears

As recalled by the late H. E. Lobdell, '17



25 Years Ago

ON JUNE 3, 1940, occurred the Institute's 6th Alumni Day which, like its five predecessors, took place under clear skies. The arrangements, which were entrusted to a committee chairmanned by *Francis A. Barrett, '24*, provided for a morning Conference on Communication. The presiding officer at this meeting was *Frank B. Jewett, '03*, President of the Alumni Association, and also President of the Bell Telephone Laboratories.

Following luncheon in Du Pont Court, the new Alumni Swimming Pool was dedicated; and in the evening at the Hotel Statler came the 65th Annual Banquet of the Alumni Association, at which special tribute was paid to *Karl T. Compton* upon the occasion of the 10th anniversary of his election to M.I.T.'s Presidency.

► The next morning at Symphony Hall, commencement exercises marked the graduation of the Institute's 73d class. Of the total of 691 degree recipients, 467 were bachelor's of the Class of 1940, 18 of whom simultaneously received the master's degree. The other 224 received advanced degrees.

The academic procession was led by *Alexander Macomber, '07*, who had been the 35th President of the Alumni Association in 1928-1929; and next came President Compton and the commencement speaker, *Henning W. Prentis, Jr.*, President of the National Association of Manufacturers. At the head of the long procession of degree candidates marched *David T. Morgenthau*, Acting President of the Class of 1940, and its three elected marshals: *Marshall P. Bearce, Thomas F. Creamer, and Henry Rapoport*.

50 Years Ago

STONE & WEBSTER's vouchers covering the first 21 months' expenditures for the construction of the "New Technology," up to June 1, 1915, totaled \$2,101,177.78. Of this sum, \$343,390.63 (16.3 per

cent) was for the foundations, and \$1,305,100.91 (62 per cent) for the superstructures of what would become the present Buildings 1, 2, 3, 4, and 10.

By mid-June, Stone & Webster reported that "491 cars, containing 260,000 cubic feet, or approximately 96 per cent, of the total limestone had been received; and about 87 per cent of the total requirements have been set."

► On June 8, at Huntington Hall in the Rogers Building on Boylston Street, Boston, 312 diplomas were awarded to 310 members of the Institute's 48th class—the seeming discrepancy being occasioned by two men receiving bachelor's degrees in two courses simultaneously. There were in the group two doctorates of philosophy and one of engineering, and 30 master's of science.*

The 279 bachelor of science degrees awarded were divided as follows: mechanical engineering, 68; civil engineering, 48; electrical engineering, 41; chemical engineering, 33; architecture, 28; chemistry, 21; geology, 11; electrochemical engineering, 9; naval architecture, 7; mining engineering and metallurgy, 5; biology, 3; physics, 3; and general science, 2.

100 Years Ago

AT THE 39th Meeting of the "Government," held May 29, 1865, Treasurer *Charles H. Dalton* reported that he had paid out for the construction of the Building at 491 Boylston Street a total of \$102,122.68, and "there remains on hand \$17,981.96."

The Secretary, *Thomas H. Webb*, stated "that the original estimate of the cost of the Building complete was \$151,624; [and] the Architect observed that the entire cost would not vary materially from that estimate."

*Including: the first S.M. in Electrochemical Engineering, to *Louis A. Wilson, '14*; and the first S.M. in Aeronautical Engineering, to *Hou-Kun Chow, '14*.

M.I.T. Classes Have Reunions June 11-14

1900: Reunion Chairman, *Elbert G. Allen*, 11 Richfield Road, West Newton, Mass.; M.I.T., June 11-13.

1905: Reunion Chairmen, *Herbert Kenway*, 30 Valentine Park, West Newton, Mass.; *Fred W. Goldthwait*, Box 32, Center Sandwich, N.H.; *Charter House Motor Hotel*, Cambridge, Mass., June 11-13.

1910: Reunion Chairman, *J. B. Babcock*, 33 Richardson St., Portland, Maine; *Continental Hotel*, Cambridge; June 13-14.

1912: Reunion Chairman, *Albion Davis*, 38 Sabrina Road, Wellesley, Mass.; *Stanley McCormick Hall*, M.I.T. Campus, June 12-14.

1913: Reunion Chairman, *George P. Capen*, 60 Everett Street, Canton, Mass.; *Claussen's Inn*, Cape Cod, June 11-14.

1915: Reunion Chairman, *Azel Mack*, 100 Memorial Drive, Cambridge, Mass.; *New Coonamessett Inn*, Falmouth, Mass., June 11-13; *Cocktail Party*, Faculty Club, June 14.

1916: Reunion Chairman, *Ralph Fletcher*, P.O. Box 71, West Chelmsford, Mass.; *Chatham Bars Inn*, Chatham, Mass., June 11-13.

1918: Reunion Chairman, *F. Alexander Magoun*, *Jaffrey*, N. H.; *Wianco Club*, Osterville, Mass., June 11-13.

1920: Reunion Chairman, *Harold Bugbee*, 21 Everell Road, Winchester, Mass.; *Red Lion Inn*, Stockbridge, Mass., June 11-13.

1925: Reunion Chairman, *David Goldman*, 141 Milk Street, Boston, Mass.; *Trade Winds Hotel*, Craigville, Mass., June 11-13.

1930: Reunion Chairman, *Joseph Harrington, Jr.*, 1 Cherry Street, Wrentham, Mass.; *Oyster Harbors Club*, Osterville, Mass., June 11-13.

1935: Reunion Chairman, *R. W. Forster*, 44 Standish Circle, Wellesley Hills, Mass.; *Chatham Bars Inn*, Chatham, Mass., June 11-13.

1940: Reunion Chairman, *R. A. Bittenbender*, 85 Meriam Street, Lexington, Mass.; *Baker House*, M.I.T. Campus, June 11-14.

1945: Reunion Chairman: *Robert Maglathlin*, *Electronics Systems Inc.*, 533 Main Street, Acton, Mass.; *Wychmere Harbors Club*, Harwichport, Mass., June 11-14.

1950: Reunion Chairmen: *Warren Marcus*, *National Radio Co., Inc.*, 37 Washington Street, Melrose, Mass.; *Stanley Chaikind*, *Marcon, Inc.*, 30 E. 42nd St., N.Y.C., N.Y.; *Sea Crest Hotel*, Cape Cod, June 11-14.

1955: Reunion Chairman: *Glenn D. Jackson*, 3d, 24 Lee Street, Marblehead, Mass.; *Provincetown Inn*, Provincetown, Mass., June 11-14.

1960: Reunion Chairman: *E. Gerald Hurst, Jr.*, 9 Farquhar Road, Newtonville, Mass.; *Wentworth-by-the-Sea*, Portsmouth, N.H., June 11-14.

Books For and By

M.I.T. Graduates

Faculty and Alumni write on a variety of topics in the news

RECENT publications likely to be of especial interest to members of the M.I.T. community have included:

Building Construction Cost Data, 23d annual edition, edited by Robert S. Godfrey, '53 (Robert Snow Means Company, \$3.50).

Cellular and Molecular Aspects of Development, by Eugene Bell, Associate Professor of Biology at M.I.T. (Harper & Row, New York).

Condemned to Meaning, by Huston Smith, Professor of Philosophy at M.I.T.; the seventh John Dewey Society Lecture (Harper & Row, \$3.50).

The Crisis of Cultural Change: A Christian Viewpoint, by Myron B. Bloy, Jr., religious counselor at M.I.T. (The Seabury Press, \$3.95).

Graphics in Space Flight, by Frank A. Heacock; part of an engineering graphics series planned by a committee including Associate Professor Steven A. Coons, '32 (McGraw-Hill Book Company, \$2.50).

Handbook of Electron Tube and Vacuum Techniques, by Fred Rosebury of the M.I.T. Research Laboratory of Electronics (Addison Wesley Publishing Company, \$17.50).

James Larkin, 1876-1947, Irish Labour Leader, a biography by Assistant Professor Emmet J. Larkin of M.I.T. (The M.I.T. Press, \$7.50).

The McNamara Strategy, by William W. Kaufmann, Professor of Political Science at M.I.T. (Harper & Row, \$5.95).

Principles of General Thermodynamics, by George N. Hatsopoulos, '49, and Professor Joseph H. Keenan, '22, of M.I.T. (John Wiley & Sons, Inc., \$15.00).

Selected Papers of Norbert Wiener, including Generalized Harmonic Analysis and Tauberian Theorems, with contributions by Professors Yuk-Wing Lee, '27, Norman Levinson, '33, and W. T. Martin (published jointly by The M.I.T. Press and the Society for Industrial and Applied Mathematics, \$12.50).

Similitude and Approximation Theory, by Stephen J. Kline, '52, Professor of Mechanical Engineering at Stanford (McGraw-Hill Book Company, \$12.75).

Stress: A reference Manual for Structural Engineering Systems Solver, a computer language for structural engineering, by Stephen J. Fenves of the University of Illinois, formerly a visiting Faculty member at M.I.T.; and Assistant Professors Robert D. Logcher, '58, and Samuel P. Mauch of the M.I.T. Department of Civil Engineering (The M.I.T. Press, \$12.50).

The Biosynthesis of Macromolecules, by Vernon M. Ingram, Professor of Biology at M.I.T. (W. A. Benjamin, Inc., New York).

The Technology of Nuclear Reactor Safety: Vol. 1, Reactor Physics and Control, edited by Professor T. J. Thompson and J. G. Beckerley of M.I.T., under AEC auspices (The M.I.T. Press, \$25).

J. J. Thomson and the Cavendish Laboratory in His Day, by his son, George Thomson (Doubleday & Company, Inc., \$4.95).

The View from the Road, by Professors Donald S. Appleyard, '58, Kevin A. Lynch, '47, and John R. Myer, '52, of M.I.T. (The M.I.T. Press, \$15).

Management School Names New Sloan Fellows

FORTY-FIVE Alfred P. Sloan Fellowships for 1965-1966 have been announced by Dean Howard W. Johnson of the Alfred P. Sloan School of Management. The fellows will be:

Richard H. Anderson, RCA Service Company; Robert B. Anderson, Sun Oil Company; Thomas H. Anderson, '48, Hughes Aircraft Company; Harold W. Anthony, New England Telephone and Telegraph Co.; Robert W. Bishop, Harrison Radiator Division of General Motors Corp.; Arthur W. Blackman, Jr., '51, United Aircraft; Robert D. Blythe, Southern Bell Telephone and Telegraph Co.; Robert W. Camp, Eastman Kodak; Arnold D. Carlson, AVCO Corporation; Thomas C. Carstens, F. W. Means & Company; Kenneth A. Charon,

IBM Corporation; Don C. Coldiron, Continental Oil Company; Donald K. Conover, Western Electric Company.

John M. Eggleston, Joseph Fernandez, and Elmer L. Field, NASA; Octavio Garcia, Universidad del Valle, Cali, Colombia; John R. Green, Chrysler Corp.; William V. Gudaitis, U.S. Army; William L. Hamilton, The Boeing Company; Hunter E. Harvey, New Jersey Bell Telephone Company; Thomas P. Hasbrouck, U.S. Air Force; Donald L. Helfer, '56, Caterpillar Tractor; Charles A. Heller, American Electric Power System; Michael W. Hilton, Babcock & Wilcox, Ltd.; Stephen H. Howell, Consumers Power Co.; Walter M. Johnson, Northwestern Bell Telephone Company; John D. Kroft, IBM Corporation; Remy J. Lachat, The Singer Com-

pany; S. William Linko, Inland Controls, Inc.; Robert L. Lord, Atlantic Refining Co.; Gerrit V. Lydecker, Union Carbide Corp.; Gregory Lynes, '49, Sylvania Electric Systems; James J. McGowan, Ohio Bell Telephone; Karl R. Merrill, U.S. Air Force.

Irwin D. Miller, Stratos Division Fairchild-Hiller; Ralph L. Pickard, IBM Corp.; Simon H. Preston, J. Stone & Company Ltd., London; Jorge Riquelme, Institute of Business Administration; Clifford J. Shirley, Canadian Imperial Bank of Commerce; David O. Smart, Faultless Starch Company; Peter N. Stevens, Ecuadorian Corporation; Giorgio Tesi, U.S. Navy; Alejandro Zapata, University of the Andes, Bogata, Colombia; Willis S. Zeigler, Goodyear Tire & Rubber Company.

Class News



'95

Our annual meeting in June will be held as usual under the tents after the M.I.T. Alumni Association luncheon. We hope to be with you there on June 14, Alumni Day, on campus in Cambridge. —**Andrew D. Fuller**, Secretary, 120 Tremont Street, Boston, Mass.

'96

Reverend **Guy L. Morrill, VI**, Princeton M.A. 1904 and graduate of the Princeton Theological Seminary, formerly lived in Canandaigua and now lives at 77 Seventh Avenue, New York. When changing the address in the class records a Christmas card was uncovered. On it was written a note: "As you and I journey down to Christmas in these momentous and menacing days, I deeply wish we might stretch out our hands to all mankind in every land (yes even to Mr. K in Russia) that we all together might this year hear again the Christmas angels sing their glad tidings of great joy and peace on earth to all men of good will." . . . The anti-segregation act's repercussions and the April speech of President Johnson at Johns Hopkins keep us in momentous and menacing days when it would be well to act in the spirit of the Reverend's note. . . . There will be a meeting of the class at the luncheon of the Alumni in June. We hope to see you in Cambridge on the M.I.T. campus on Monday, June 14. —**James M. Driscoll**, Secretary, 129 Walnut Street, Brookline, Mass.

'97

"For want of a nail, a shoe was lost; for want of a shoe, a rider was lost; for want of a rider, a message was lost; for want of a message the battle was lost; for want of a battle, a kingdom was lost—and all for want of a nail." . . . This last should comment on the fact that for want of a 20 cent ball pen, no one has sent in Class News. . . . Our country has recently had political leaders, for instance Franklin Roosevelt and Harry Truman, who were "iffy" If no news comes in the next few weeks it will be necessary to write "iffy" class news, which you may not like.—

George R. Wadleigh, Acting Secretary, 70 Flower Avenue, Hastings-on-Hudson, N.Y.

'98

It is sad to report to the Class that our president, **Ed Chapin**, passed away in Marblehead on April 14, 1965. Further details were not available in time for this issue but will appear in the Class News for July.

Alumni Day will be Monday, June 14. Perhaps some, who have answered our postal card and do not live too far away, will be able to make it this year. It would be nice to meet new faces. The few of us regulars are looking forward to the occasion. . . . We certainly will miss **Carl S. High**, Course I, who frequently at this time of year would take the long bus trip from Partridge, Kansas, to come to the reunion. Inquiring of the Reno County Clerk in Hutchinson, Kansas, we learned, under date of March 11, 1965, that Carl was recently deceased. It was suggested we write to **Annabel High Collins**, a daughter living in Partridge and the administrator of the estate, for date of decease and other particulars. We have not as yet (April 5) received a reply from **Annabel** to our later letter of March 15. We hope to be able to report further in the July class notes. . . . Our Course II classmate, **George H. Booth** of 243 Roswell Avenue, Long Beach, 3, Calif., writes under date of January 29, as follows: "Your postal card of January 16, asking for information about myself, is answered here but there is nothing of interest to report. My address has been the same for the last 14 years. As previously reported, I resigned as mechanical engineer of the Inspiration Copper Company, Inspiration, Ariz., in 1946 when World War II was over, also my 70th birthday. Since then, I have lived in Long Beach where live my children, grandchildren and great-grandchildren—enough of them to keep me busy and interested in living. No one from the M.I.T. society in Los Angeles has ever taken the trouble to visit me; however, by this time, I do not desire such attention. Just what you expect a 90 year old has-been to report is not known; however, your request is answered." Your secretary wrote to George, in answer to his letter, expressing the desire that perhaps some classmate or his children or friends would visit him, if and when in that vicinity in the near future.

Another reply to our postal card is from our Course VI classmate, **Willard B. Nelson**, of 621 DeMott Avenue, Baldwin, N.Y. 11512, who wrote the following interesting letter on February 15: "In reply

Happy Birthday

In June two alumni will celebrate their 95th birthdays; nine will be 90 years old; five will mark their 85th birthdays; and sixteen will blow out 80 candles.

June, 1870—**CAROLINE W. BARRETT**, '94, on the 9th; **EDWARD EARL**, '91, on the 25th.

June, 1875—**JOHN E. BUCK**, '97, and **J. THOMAS F. GLADDING**, '00, on the 1st; **ERNEST CRONENBOLD**, '03, and **WILLIAM D. PARKER**, '97, on the 11th; **ALBION W. SHAW**, '98, on the 13th; **WALTER PAGE**, '98, on the 16th; **GEORGE H. BOOTH**, '98, on the 17th; **W. CHARLES DUNN**, '97, on the 21st; **EDWIN B. MEAD**, '99, on the 30th.

June, 1880—**CHARLES L. BATES**, '03, on the 10th; **WARREN C. TAYLOR**, '02, on the 17th; **J. TYRRELL CHENEY**, '03, on the 26th; **FRANKLIN M. CHACE**, '04, on the 27th; **EARL S. BARDWELL**, '06, on the 28th.

June, 1885—**HERBERT C. ELTON**, '08, on the 4th; **KENNETH C. BOUSH**, '08, on the 6th; **RALPH G. HUDSON**, '07, on the 7th; **HARRY T. MCGRATH**, '08, on the 9th; **JOSEPH M. BAKER**, '07, on the 12th; **PAUL REMICK**, '09, on the 13th; **MORTIMER P. BURROUGHS**, '08, on the 16th; **REBECCA H. THOMPSON**, '09, on the 17th; **JAMES H. MEANS**, '06, on the 24th; **J. ELLIS DOUCETTE**, '07, and **FRANK D. APPLIN**, '10, on the 26th; **STEWART C. COEY**, '06, **HAYLETT O'NEILL**, '09, and **LOCKWOOD J. TOWNE**, '09, on the 27th; **CARL A. HALL**, '08, on the 28th; **FREDERICK G. DEMPWOLF**, '07, on the 29th.

to your request for a report from members of '98: I can report as usual that I am well and active. Have recently resumed bowling after an interval due to a broken wrist. My scores are not high but it is still fun and good exercise. My summers are spent as they have been for many years, at my summer home on Lake George where I hugely enjoy my family of grandchildren (3) and great-grandchildren (3) as they visit me. Looking forward to the reports from others, I remain, etc." The fact that Willard always has and still is keeping physically active, accounts in a large measure for his vigor. Isn't that so, Willard? . . . The class has lost contact for a good many years with **Ira M. Chace, Jr.**, Course I. We wrote to the city clerk of New Bedford, Mass., who replied that **Ira** died there on September 28, 1963. From the State House library we obtained a clipping from the New Bedford Standard Times, dated September 30, 1963, which reads as follows: "**Ira M. Chace, Jr.**, 87, husband of the late **Lucy B. (Ellis) Chace**, of 60 DeWolfe Street, died Saturday, September 28, 1963, at a New Bedford nursing home after a long illness. A lifelong resident of New Bedford, he was a retired civil engineer. He was a life member of the American Society of Civil Engineers and the American Railroad Association and was a graduate of Mass. Institute of Technology. Survivors include a son, **Mason E.** of New Bedford and a sister, **Mrs. Clara Watson**, of Cohasset." Your secretary recalls being associated with **Ira** in the fall of 1904 while engaged

in staking out alignment of a short branch of the N.Y.C.R.R. in the Clearfield Valley, Pa.

James Purdon, Course IV, whose permanent home is at 308 Commonwealth Avenue, Boston, is, we learned from his daughter, Nina, confined in a nursing home. He is 92 years of age and in very poor health. He was graduated from Harvard in 1895 and then went to M.I.T., Class of '98, for only one year and so is probably not remembered by many of us. He is listed, however, in the Alumni Register as a class member.—**Frederic A. Jones**, Secretary, 286 Chestnut Hill Avenue, Brighton, Mass. 02135.

'00

Your secretary has just received from **Harry Morris** a copy of a book that he had privately printed in 1961-62 entitled "The Mining West at the turn of the Century." The title page carries this statement: "Illustrated Accounts of Many Mining Camps That I Knew When They were Discovered and Richly Productive and We Could Sell Our Gold and Silver Without Official Interference." This book is a revision and enlargement of one that Harry published in 1955 with the title "Desert Gold and Total Prospecting." This book, a copy of which was sent to us at the time, was reviewed in these columns in June, 1956. The new volume contains many more reminiscences and stories of the mining West in the early days of the century when it was really a "Wild West."—**Elbert G. Allen**, Secretary, 11 Richfield Road, West Newton, Mass.

'01

I regret that I must be the bearer of sad news. Mrs. Peterson is in a mental hospital. I learned these facts from her brother who lives in Rhode Island. He will keep me informed of her condition from time to time and I will relay the news to the class. . . . I also have a letter from Mr. Lehmann, Secretary of the Alumni Association, saying that he had been informed by Mr. Nelson Domin that he had been appointed conservator for **Bob Derby** who is now incapacitated and will be unable to attend any further class functions. I will keep you informed of his condition. . . . Those of us that are left will have to carry on. I shall be glad to receive comments on any of the classmates. I would like to give **Ed Davis** credit for the hard work that he has done for the class.—**Theodore H. Taft**, Secretary, Box 124, Jaffrey, N.H.

'02

A letter from Mrs. Virginia Gifford Atchley written to **Dan Patch** gives the information that her father, **Ralph Gifford**,

left four daughters, Mrs. Marian Langham of Bryn Mawr, Pa.; Mrs. Atchley of Los Angeles; Mrs. Elizabeth Gardiner of Bethesda, Md.; and Mrs. Ruth Smith of Thousand Oaks, Calif., and eight grandchildren. . . . The following is from the Boston Herald of April 5: "Funeral services for **Austin C. Wood** of 1259 Carlene Ave., Fort Meyers, Fla., retired architect and former Republican national committeeman, will be held at the Pitman Chapel, Watch Hill St., Forest Hills, Tuesday at 2:30 pm. Mr. Wood, a former Milton resident, died last Tuesday (March 30) at his Florida home. A graduate of M.I.T., he was employed for years by the Boston architectural firm of McLaughlin and Burr. Mr. Wood was a member of the Sigma Tu Chapter, Delta Kappa Epsilon, the Massachusetts Republican Club and the Town Club of Milton. He was a descendant of William Brewster, an elder of the Plymouth Bay Colony. Mr. Wood leaves his wife, Maude (Smith) and a brother." . . . **Harold Everett** writes that he had a real celebration on his 85th birthday with a birthday cake having 85 candles on it and other goodies. He and Mrs. Everett are in excellent health, though they are a bit cricky in the joints and are obliged to act their age when various activities appeal to them. He tries to get a mile of walking each day except in very severe weather but has given up strenuous activities.—**Burton G. Philbrick**, Secretary, 18 Ocean Avenue, Salem, Mass.

'03

Open House at M.I.T. was held on April 10, a beautiful Spring day, and all the departments were crowded by enthusiastic students of science. There was an overwhelming crowd of visitors, not only teachers, but also the general public and even children, attesting to the avid interest in science training throughout the early years of schooling. The entire program was highly entertaining. There were four guided tours. Every department was open and student attendants eagerly explained in simple terms the techniques involved in their complicated apparatus which was on display. Of particular interest was the physics program in the crowded lecture hall. Here the latest phenomenon of the laser theory was dramatically explained on the screen and by apparatus. The huge magnet laboratory displaying many uses both medical and commercial was also the public magnet. . . . An interesting letter was received from **Clarence Joyce**, V, regarding the Engineering Club meeting at 1st Avenue and 47th Street, N.Y., a meeting place that now seems disappointing compared to their former congenial quarters at the Biltmore Hotel. The meeting was attended by classmates of '96 to '09 with **Harry White**, '99, **Clarence Joyce**, '03, **Gregory Dexter**, '08 and **Fred Dewey**, '10, most active. Dr. Jackson, now retired has his doctorate in education and his son is now a junior at M.I.T., so he has strong interests in common with us.

"We were glad to see **Harry White** again after his successful operation last summer. The conversation ranged from conditions at the Worlds' Fair to the fiscal problems of the nation's railroads. The main subject on the agenda was discussion of the two M.I.T. clubs in New York. After long discussion it seemed evident that the M.I.T. Alumni Center on 1st Avenue will have to move as the lease is up in July and the Engineering Societies want the space. Everybody hoped the new location would be more central."

Your secretary in his effort to report our classmates' news, has encountered his first faux pas in giving the address of **Scotty Morse** in the last issue of *The Review* as Minneapolis. Now rest assured he is still (and will to the end of his remaining years) residing in Indianapolis where he enjoys his memorable engineering structures, proud monuments to his long, faithful stewardship. . . . Our happy birthday greeting goes to **Arthur B. Allen**, II, for his 85th milestone on April 25 and with it the hope that he is enjoying excellent health. Best wishes to all his buddies. . . . **Jim Welsh**, II, informed us that he will leave his winter home in Florida by June 1 to reside at Central Beach, Bradford, R.I. Here with Mrs. Welch, he can anticipate his customary M.I.T. commencement with classmates present. . . . We have lost another classmate in **Henry J. Fitzler**, XIII, of 9 Highland Road, Tiverton, R.I., on January 9—age 85 years. Henry was born in New York city, son of the late Ferdinand and Honora (Callahan) Fitzler. He had lived there since childhood. He was a graduate of D.C. Durfee High School in Fall River with the Class of 1898 and entered M.I.T. to graduate in 1903 with a degree in naval architecture. For almost 40 years he was employed by the Standard Oil Company of New York. During that time he served as chief engineer aboard several tankers and assisted in building several others. Mr. Fitzler was a member of St. Christopher's parish and a member of the Holy Name Society of that parish. He is survived by a sister, Miss Wilhelmina Fitzler with whom he lived, and a brother Ferdinand H. Fitzler of Fall River. He was buried with solemn Requiem Mass and his final resting place is the cemetery at Fall River.—**John J. A. Nolan**, Secretary, 13 Linden Avenue, Somerville, Mass.; **Augustus H. Eustis**, Treasurer, 13 State Street, Boston, Mass.

'04

Your secretary is indebted to **Gus Bouscaren** for the information below regarding our classmate **Bill Boggs** whose very much condensed career for the past 60 years is given. After getting his degree in 1904 he worked for two years for the Eustis Mining Company followed by a year in Mexico and a nine-year stretch at the U.S. Smelting Company at Cartert, N.J. After a period at the Copper Queen Works he moved to Noranda where he distinguished

himself with several accomplishments. Since retirement he has been engaged in independent consulting. . . . A letter from **Harry Rollins** mailed in Mexico indicates that he and Glendora have been taking in the annual M.I.T. Fiesta and having a grand time. —**Carle R. Hayward**, Secretary, 120 Beacon Street, Boston, Mass.; **Eugene H. Russell, Jr.**, Treasurer, 82 Stevens Road, Needham, Mass.

'05

Just a reminder to those who have not sent in their questionnaires in regard to the 60th Reunion. The most important point for those who will be needing hotel accommodations is to convene at the Charter House Hotel, 5 Cambridge Parkway, Cambridge, during the afternoon of Saturday, June 12, and register. The Class Dinner will be at McCormick Hall beginning at 5:30 p.m. with a cocktail hour and followed by dinner at 7:30 p.m. Sunday afternoon there will be a choice of trips through historic Boston or the M.I.T. campus, by bus, provided that enough register to warrant chartered bus. Sunday there will be a cocktail hour at 5:00 p.m. at the Faculty Club followed by another Class Dinner. Monday, dutch treat breakfast at Walker Memorial and join the regular Alumni Day program. For those living around Boston, I would mention that **Jack** and **Susana Flynn** are coming from Argentina, **Wallace** and **Ruth MacBriar** from Seattle, and **Harry Charlesworth** from New Jersey. . . . Several regrets have been received chiefly because of incapacitation due to being octogenarians. Captain **Clayton Simmers** has been hospitalized for two years. **Joe Daniels** has a bad back but wishes to be remembered to everyone. **Mildred Thompson**, also has a bad back and **Ted** and **Edith Steel** don't feel up to the trip. . . . **Willard Simpson**, with whom we have been polling for the last month, will be attending the reunion attended by his sister. By the way Willard's son, M.I.T., '40, was designated as "Engineer of the Year" by the Civil Engineering Society of Texas. Willard, Sr. received the same award a generation previously. . . . Captain **William A. Hall**, XIII, died at Clearwater, Fla., on December 2, 1964. No details are as yet at hand.—**Fred Goldthwait**, Secretary, Box 32, Center Sandwich, N.H.; **Gilbert S. Tower**, Assistant Secretary, 35 North Main Street, Cohasset, Mass.

'06

These notes are due the same day as the income tax returns deadline but my returns are in the mail with a day to spare so now for the notes. Just a few days too late for the May notes came a long and welcome letter from **Sam Ware**, XIII, who expressed his concern for Jim recalling that they had been friends in the Somerville high school and over the

years had seen each other frequently in Boston during lunch hour—at Thompson's Spa, I wonder? Like so many others, in our day, Sam had lived at home and allowed he hadn't made many close friends outside of his fraternity (**Theta Xi**) which was then domiciled "way out on Beacon Street." During World War II he was president of their so-called Honorary Club and since then has been a trustee of the building fund for their property on Bay State Road. I believe they are now in the process of acquiring the house next door for larger quarters. After a varied career Sam has been retired since 1942 and loves it. He is blessed with good health and keeps busy—at the Scituate Yacht Club (sailing); church; as trustee of South Shore Hospital at Weymouth and at present as the vice-chairman of its building committee which is spending over two millions for additions. Along in April, I expect to be making calls on behalf of our Newton-Wellesley Hospital for which three and one-half million is needed. . . . **Doc (Gene) Fogg**, I, and **Lynne** are probably back home in Portland, Maine, now after winterizing since November at Indian Rocks Beach, on the west coast of Florida between St. Petersburg and Clearwater. Enclosed with their nice note were two color cards. One showed the beach from the air and I judge it must be pretty special! The other card shows the Sun Temple in "Romantic Tiki Gardens, a South Sea Island paradise transplanted to Indian Rocks Beach." Rather special too. They allowed that they would be glad when the time came, to return to New England—and "are looking forward to seeing Ned and Marion at Cambridge in '66." Soon after New Years you should all be getting the first mailing about our 60th.

A belated report of the death of a classmate came through the Alumni Office early in April. **William Charles Furer**, IV, S.B., died in Honolulu on October 4, 1963. He was born February

18, 1879, in Alma, Wis., prepared at Sheboygan High School and joined our class, in sophomore year I believe, from the University of Wisconsin. He was active in the Architectural Society, treasurer and then president; president of the Wisconsin Club for two years; member of the glee club, and one of the group of five who are wearing white vests in the senior portfolio photos. The others are **Lawrence** and **Mesmer**, both Course I, and **Kasson** and **Powell**, both Course VI. Bill's thesis was on the "Design of Brick and Reinforced Concrete Chimneys and Comparisons between their Center of Pressure." As soon as he had graduated Bill landed a job with the American Bridge Company in New York City and soon after was structural steel draftsman, Department of Yards and Docks, U.S. Naval Station at Key West. Then he held a similar job at the Navy Yard in New York City. By 1908 he began what proved to be over 50 years residence in Honolulu, starting then as draftsman and engineer with the Navy Department on the construction of the new naval base at Pearl Harbor. He became assistant county engineer, with the water company, and with the Lord-Young Engineering Company, Contractors. By 1914 he was engineer with the Honolulu D.P.W. For a while Bill tried teaching, as assistant professor of engineering and architectural engineering, University of Hawaii. After such a varied professional experience, Bill must have felt qualified to start his life work for in 1925 he established the architectural firm of Furer and Potter, continuing as an architectural and structural engineer and becoming by 1961 the senior partner of Furer and Furer. The September, 1960, issue of the American Engineer had this to report: "William C. Furer, P.E., has retired after serving 34 years as secretary and executive secretary of the Hawaii Board of Registration for Professional Engineers, Architects, and Land Surveyors. Mr. Furer, now

Deceased

IRA M. CHACE, JR., '98, September 28, 1963*
EDWARD S. CHAPIN, '98, April 14*
CARL S. HIGH, '98*
AUSTIN C. WOOD, '02, March 20*
GEORGE R. GAENSLER, '03, February 15
GEORGE G. HALL, '04, December
EDWARD A. MEAD, '05, March 4, 1964
WILLIAM C. FURER, '06, October 4, 1963*
SEYMOUR J. EGAN, '07, March 16*
JOHN V. QUINLAN, '07, January 6*
GEORGE IRVING EMERSON, '09*
FRANCIS M. LOUD, '09, March 14*
CHARLES W. DOW, '11*
EDWARD H. KRUCHEMEYER, '11, March 22*
CHARLES A. MC MANUS, '11, February 20*
NORMAN S. WADE, '11, March 11*
CLARENCE K. REIMAN, '12, February 27*
HERBERT L. WOELING, '12, May 24, 1964
GEORGE E. LEAVITT, JR., '13, January 21
CARLETON W. LOVELL, '15, January 30*
ALBERT WALTER, '15, February 27*

MAYNARD C. GUSS, '16, February 20*
CHARLES M. HUDSON, '16, March 14
ARTHUR WATTS SKILLING, '21, March 20*
HAROLD EDER, '23, April*
LISLE J. MAXSON, '23, December 20, 1963
CHARLES A. FRANK, '24, November 2*
SAMUEL L. GRAHAM, '24, December 12*
DOUGLAS E. MCWILLIAMS, '24, December*
EDWARD O. MCCARTHY, '25, March 14*
CARL H. OLSON, '26, January 27
ROBERT BALDWIN, '30, January 16*
CARL J. FRANZ, '30, February 8*
CHARLES RANKIN, '31, April 8*
JOHN P. RICHTER, '31*
FRED C. YOHN, '31, March 11*
WILLIAM T. JONES, '34, June 15, 1963
LEON M. FLANDERS, JR., '42, August 3
MRS. ROSANNA R. CONAUGHTY, '43, January 20
JOHN E. HARSCH, '43, March 3*
RAUL G. MENDEZ, '55
JEREMY A. PLATT, '57, December 1
HAROLD G. FRITZ, '61, March 30

81, had to retire when a law was passed requiring retirement at 70 of state employees. An M.I.T. graduate, he was instrumental in obtaining the registration law and organizing the Hawaii Board. Appointed executive secretary in 1947, he held the position until his compulsory retirement in June, 1960." Bill married Mary Ellen Braly in 1909. I have no recent information about the family but I believe they had one son. A note of sympathy is being sent to Honolulu. . . . Who besides the regulars will appear at lunch on Alumni Day June 14, I wonder?—**Edward B. Rowe**, Secretary-Treasurer, 11 Cushing Road, Wellesley Hills, Mass. 02181.

'07

There will be no reunion of the Class of 1907 this month. Out of 59 cards returned, which was an excellent average for replies, a total of 15 members indicated they would either attend or try to attend. From past experience, this would sift down to an actual attendance of not over seven or eight. The class officers studied the results of the canvass and came to the conclusion it would be unwise to try and gather at the Oyster Harbors Club, at Osterville on Cape Cod, as we had hoped to do. We had made reservations for the period of June 11-13 with Don Church, the manager of the club, at the time of our 55th Reunion in 1962. Your secretary wrote Mr. Church and regretfully canceled our previous commitment. I, however, asked to have the proper dates in June of 1967 reserved for 1907 if we should decide to hold our 60th Reunion there. This club is so popular for M.I.T. reunions that reservations must be made several years in advance. . . . Your officers suggest that we have a get-together on Alumni Day at the noon luncheon on June 14, 1965. By making reservations in advance, '07 can have a table by itself. By the time you read this, around May 31, you will have received the Alumni Day announcement with application for tickets. If you have not already done so, send it in now with reservation for at least the noon luncheon. It will be perfectly proper to bring your wife, family, or a friend along also. As I note the large number of alumni, much older than members of 1907, who come out to the reunions, I wonder what has happened to good old '07. We should reunite before it is too late.

In the May notes, I gave an account of the death of **Brigadier General John Mather**, VI, and a short obituary account of his life's activities. A recent note from Mrs. Mather added the following: "Graveside services were held at 11:00 A.M., March 22, at Arlington National Cemetery. John is buried on the knoll near General Pershing's grave. This is fitting, in that he served on the General's staff at Charemont in World War I. A military funeral is always impressive and dignified. There were 12 in the family present (7 out of 8 grand-

children) besides friends who live in Washington." . . . On February 24, **Seymour J. Egan**, XIII, returned his card stating he could not attend our reunion if held in June. In The Boston Herald for March 17, there was a notice of his death on March 16. Seymour retired in 1952 as senior naval architect and chief engineer at the Navy Yard in Charlestown, Mass. He had been in the service of the federal government for 42 years. He was a 50-year member of St. Joseph's Holy Name Society of Wakefield. Surviving are two sons, J. Thomas Egan, of Marblehead, and John S. Egan, of Wakefield. He also had two daughters. Seymour was a very faithful attendant at the Boston dinners, and his absence will be noted when next we meet at the Faculty Club.

As a result of my 80th birthday letter to **Albert P. Mansfield**, VI, he wrote me an interesting letter telling of his life's activities. He started his professional career with G.E. at Lynn in 1909. After working for eight years on mercury arc rectifiers, he transferred to the steam turbine division, working on design of centrifugal compressors. In 1934, G.E. sold out the compressor business, and Albert began work on the electrification of the textile industry for G.E. in Schenectady, N.Y. In 1950, he retired from G.E., having completed 41 years of service. Later, he joined the engineering research department of the Pacific Mills at Lawrence, Mass., working for six years on electrical problems associated with development of new textile machinery. Like many other '07 men, Albert gave much of his time to domestic affairs. He served 11 years on the Lynnfield Board of Selectmen—1912-1923, several of these years as chairman of the board. During World War I, he served as a member of the War Service Commission. When the local trolley car serving Lynnfield, Lynn, and Wakefield was abandoned in 1918, Albert formed Lynnfield Community, Inc., to furnish bus service to these cities. Today, this bus line is a division of the Hudson Bus Line. Albert married in 1910 and had two boys and two girls. They have all married so that there are now 13 grandchildren ranging in age from 25 to nine. He ended his letter by saying, "My life has been far from glamorous but rather interesting and moderately successful. Right now, I am taking it easy and am occupied mostly with home maintenance."—another '07 man who will leave the world a little better to live in because he gave of his time and talents to help his fellow man.

In the May notes I suggested a revised class list. This is to be forthcoming only if enough of the class reply, requesting me to get it out. This is the last call. Drop me a card today saying, "I wish a new Class list of living members." With no reunion to be held this year, I consider a new list would be of help in keeping your individual record of 1907 for the next two years. . . . Word has just been received from the Alumni Register of the death of **John V. Quinlan**, VI, on January 6, 1965. He was considered an associate member of '07. Any

of the class having further information, please send it to me. I have several copies of the large Class photographs taken at Oyster Harbors Reunions which are available for distribution. Write me which one you would like to have and if it is available, I will send it to you. First come, first served.—**Philip B. Walker**, Secretary and Treasurer, 18 Summit Street, Whitinsville, Mass.; **Gardner S. Gould**, Assistant Secretary, 409 Highland Street, Newtonville, Mass.

'08

How about the Alumni Fund? To those who have already given, our thanks; to those who have not, please do. It is not too late. Our 57th Reunion will be held at the Melrose Inn, Harwichport, Mass., on the Cape on June 11, 12 and 13, 1965. Ladies are invited. Then Alumni Day is at Cambridge, Monday, June 14. There is lots to see and do. We hope you can make it.—**H. Les-ton Carter**, Secretary, 14 Roslyn Road, Waban 68, Mass.; **Joseph W. Wattles**, Treasurer, 26 Bullard Road, Weston 93, Mass.

'09

It is with the deepest regret that we report the death of our classmate and assistant class secretary, **Francis Loud**, which occurred in Florida on March 14, while he was visiting his brother, a retired doctor. We first obtained the news from **John Davis** who received a clipping from Ruth Congdon taken from an Edgewater, Fla., newspaper. Francis graduated from Colorado College before coming to the Institute where he took Course VI. We electrical engineers remember him well—his high scholarship and his earnest, quiet manner. Shortly after graduation he became associated with Jackson and Moreland where he specialized in appraising. He retired in 1961. Last fall, after stopping at Colorado College to attend his 60th anniversary there, he visited his sister for two months in California before joining his brother in Florida. Through the years he was always most loyal to the Class and to the Institute, rarely, if ever, missing a class reunion, an alumni meeting, or an Alumni Officers' Conference. During the past year or two, owing to a walking difficulty, it was a major effort on his part to drive from his home in Weymouth to Cambridge and to walk to the several Institute buildings. He was a member of the Alumni Council and, as we all know, an assistant secretary of the class. Those of us who were members of the 50th Anniversary Committee of which he was chairman, can well remember the long hours, the detailed work, the effort and guidance which he gave to make the reunion such a suc-

cess. As a member of the 55th Reunion Committee, he never missed a meeting and contributed much to the planning and conducting of the reunion.

Molly Scharff writes: "I, too, feel that Francis was one of the most loyal and active members of our class, and I shall never forget the work that he did in connection with our 50th and 55th Reunions. It is indeed sad that he will not be with us for our 60th." . . . **Art Shaw** writes: "Betty and I were sorry to learn of Francis' passing but not too much surprised because he looked badly the last time we saw him. He will be much missed. The depth of his loyalty and interest in M.I.T. was particularly notable because of his divided devotion between M.I.T. and Denver." . . . **George Wallis** writes: "I was very sorry to learn of the passing of Francis Loud. He was a wonderful fellow and always much interested in the affairs of the class and Institute. He will be missed by all his friends and particularly by all of us who manage to get to the '09 reunions." . . . Francis made his home in the old family homestead acquired by his grandfather and later by his parents at 351 Commercial Street, Weymouth. He is survived by his brother, Dr. Norman W. Loud of White River Junction, Vermont, and by his sister in San Diego, Calif. Memorial services will be conducted in Weymouth in May. . . . **Art Shaw** wrote us from Sarasota, Fla., as follows: "Last evening I attended a dinner meeting of the M.I.T. Club of Southwest Florida in Sarasota. The topic of the speaker, Professor Peter Eagleson of M.I.T., was 'Beach Erosion' which is of vital interest here on the sandy Florida Peninsula. Our good friend and classmate, **Hardy Cook**, VI, was there and I had a pleasant chat with him. He retired 19 years ago for reasons of ill health and has fooled his physicians by benefit of Florida sunshine. I had a pleasant surprise when Hardy's daughter Marjorie, who is his chauffeur, recognized me and recalled our 25th Reunion at which many of us had our families with us. We have had an unusually fine winter weatherwise here in Florida. We now plan to leave for home April 16 and expect to reach Auburndale about a week later, taking time out for a couple of visits enroute." . . . Your secretary was a fellow course member with Hardy and also recalls that he was a most aggressive tackle on our class football team. We have not heard from him for a long time and are glad to receive this news of him.

George Wallis wrote: "We spent nearly three months on our Florida trip but Marcia was confined the last two weeks with a severe case of the shingles. It was necessary to fly back. Our youngest daughter Frances and her husband, Sandy, flew down to pack our clothing, etc., and drive the car back. Marcia is still confined but the last day or so has started to show some improvement." George also received a letter from **Alfred Hague** of Pompano Beach, Fla., enclosing a clipping from the Boca Raton Sun Sentinel telling of the death of **George Irving Emerson**, 77, Course XI. He came

to Boca Raton from Columbia Lake, Conn. George prepared for the Institute at Haverhill (Mass.) High School, was a member of the Civil Engineering Society, Biological Society, Class Relay Team, and the Tech Show chorus. Mr. Hague writes: "He was a frat brother of mine and I have seen quite a lot of him during the past six years as we lived not too far apart. He had been in good health except for circulatory trouble in his legs. He died of a massive coronary occlusion in his sleep. The autopsy showed that his arteries had been in bad shape and the doctors wondered how he had carried on as he had." Irving wrote us that he and his wife intended to attend the 55th Reunion but were prevented by a virus. (See December class notes.) He is survived by his widow, two daughters and a sister. We have written to Mrs. Emerson expressing the sympathy of the class as well as our own.

In the March Review we told of the death of **Ira W. Wolfner** of Peoria Heights, Ill. on November 14, 1964. At that time we had no records of Ira's career. We are indebted to **Isa W. Kahn**, '06, of Chicago who has sent us an obituary clipping from the Peoria Journal Star showing Ira's picture and telling much of his career. He had retired as president of the National Coöperation Company and after his retirement he devoted much of his time to Red Cross work, the Peoria City Mission and Neighborhood House of which his father was the founder. He was also quite active in the Association of Commerce. Surviving are his wife, three daughters, two sons, a sister and eleven grandchildren. We have written to Mrs. Wolfner expressing the sympathy of the class as well as our own. . . . We received a clipping from Physics Today stating that **Robert I. Hulsizer**, '48, was elected vice-chairman of the Commission on College Physics. Robert is "Jr." and is a Professor with the Physics Department at the Institute. He is a son of **Bob Hulsizer**, Course VI, a patent attorney, whom we all knew so well as students.—**Chester L. Dawes**, Secretary, Pierce Hall, Harvard University, Cambridge 38, Mass.; **George E. Wallis**, Assistant Secretary, Wenham, Mass.

'11

The machinations of a few influential members of the Class have resulted in the appointment of a new class secretary, and in his reluctant acceptance. He will do his best. . . . In an article printed in the March 14, Boston Globe, General **George Kenney** expressed the following opinions on affairs in Viet Nam: "We do not win wars, large or small, by defending. From 1775 to 1950 we attacked and won. In Korea, we went on the defensive and at the conference table conceded much to the Reds. You cannot win back at the conference table what you have already lost on the battle field. The fact is that if we pull out of South Viet Nam, that country will be taken over by the Reds in short order." . . . Classmate **Edward H. Kruck-**

emeyer died March 22. We are indebted to his wife, Charlotte, for the following information: He was born in Cincinnati in 1886, graduated from Walter Hills High School there and studied architecture with our class at M.I.T. He was awarded the Rotch Prize for highest scholastic record of Special Students. His early career included work in an architectural office in Boston and travel and study with other young architects in Europe. From 1915 to 1960 he practiced architecture in Cincinnati with a partner, the late **Charles R. Strong**. He engaged in many public activities in Cincinnati including: chairman of Committee on Revision of Cincinnati Building Code, chairman of the City Planning Committee, work on the Community Chest, director of Columbia Bank and Savings Company and of the Security Savings and Loan Company, vice-president of Jacob Lichter Foundation. He was co-founder of the Cincinnati Architectural Club, and was active in several other capacities. He is survived by his wife, Charlotte R., and a son, Kenneth, now a student of architecture at M.I.T.

In a letter to **John Herlihy**, **Minot S. Dennett** reports the death of **Charles W. Dow** in Rochester, N.Y. Minot says he is leading a rather quiet life in Florida but did make a brief trip to Boston, Cape Cod and Michigan last summer. . . . Another letter to John Herlihy was from **Frank G. Smith** who has been living in Honolulu for the past seven years. It was on stationery decorated by himself with pictures of paradise flowers and of a young surf boarder, done by the silk screen process. Frank has been retired 10 years and is living in a house "not too wet, not too dry and not too salty" but near his daughter and grandchildren. . . . The following is taken from the Boston Edison News, April, 1965: **Norman S. Wade**, 11 Evergreen Road, Manchester, Conn., former Head of the Steam Heat Stations Division died March 11. Mr. Wade, 78, was a graduate of Massachusetts Institute of Technology and entered the company in 1918. He was a veteran of World War I. After 33 years of service, most of which was at the Kneeland Street Steam Station, he retired in 1951. He leaves his wife, Ruth, and a daughter. . . . **Elinor L. McManus** reports that her husband **Charles A. McManus** died suddenly on February 20 as a result of a heart attack. . . . The following address changes have been received: **Norman Duffett** is back from Florida and living at 151 Buffalo Avenue, Niagara Falls, N. Y.; **General George Kenney** is at 111 East 56th Street, New York, N. Y. 10022. . . . For many years the class notes always ended with the slogan "Write to Dennie." Let's change it to "Write to Obie."—**Oberlin S. Clark**, Secretary, 59 Leonard Road, North Weymouth, Mass. 02191; **John A. Herlihy**, Treasurer, 588 Riverside Avenue, Medford, Mass.

'12

Clarence K. Reiman, X, passed away at his home, 51 Bradyll Road, Weston, in February after a long illness. After grad-

uation, Clarence received his doctor's degree from the University of Geneva in Switzerland. After graduate work there and at the University of Leeds in England, an independent consulting engineer most of his life, he worked for Arthur D. Little Company several years as a chemical engineer and also instructed at M.I.T. He was a member of many professional societies and was considered an authority on many phases of chemical engineering. . . . Mrs. James Cook passed away in February in Marblehead after a long illness. . . . A good letter from **Hugo H. Hansen** states that he is retiring after 52 years in the paper business and has moved to 33 Briarcliffe Acres, Myrtle Beach, S.C. Hugo states that the paper industry has been good to him and he can't thank M.I.T. enough for giving him a good start. He has three children and 12 grandchildren, 11 of them being boys. He would be delighted to hear from anybody at his new home. . . . **Arch Eicher** writes from Cleveland that he and Agnes have just returned from six weeks at Palm Beach Shores in Florida. While there they visited **Jack and Marion Lenaerts** in Venice. Jack will soon be returning to Cape Cod for the summer. . . . **Carl Rowley** celebrated his birthday early in April but Arch was unable to get to the party on account of bad weather and flu bugs.—**Frederick J. Shepard, Jr.**, Secretary, 31 Chestnut Street, Boston 9, Mass.; **John Noyes**, Assistant Secretary, 3326 Shorecrest Drive, Dallas 36, Texas.

'13

Shall we greet you and yours on June 14 at Clauson's Inn for your 52nd Reunion? It is never too late and we believe that if you decide at this late date to join us on the Cape, we can still squeeze you in. . . . The "trek" of our classmates who sojourn in warmer climes during our frigid months has started. **Ed Taft** has returned to Branford, Conn., from Fort Lauderdale. The **Lester Gustins** called several times from Winchester since their return from "St. Pete." The **Brewsters** enjoyed a South American cruise this past winter. So, it is expected that we shall shortly hear from the **Howies'** Maine residence. . . . As usual, **Bill Mattson** wrote to us again following our Reunion write-up in the March issue of *The Review*. After several trips East and a trip to Hawaii, it is very doubtful that he and Jo can make an eastern trip in 65. The Capen family certainly thanks the Mattsons for their invitation to visit them in Colorado. Also, Bill extends a very cordial invitation to any of the '13ers to enjoy the hospitality of the Mattsons when visiting in their vicinity. . . . On March 24, we were terribly shocked to learn from Bill Brewster that Jeannie Farwell had just suddenly past away. We immediately offered the sympathy for the class as well as personally to **Jack Farwell**. Again, we can not express to Jack our real feelings, as Jeannie was one of our most

enthusiastic '13 wives. No doubt, many of us can remember Jeannie as a bride at our 1947 Reunion at Swampscott. Jack does expect to be with us in June. A very interesting letter and clippings have been received from **Clarence Brett**. On April 4, the citizens of Teaneck, N.J., gave a testimonial dinner to Clarence. S.R.O., for he has served his community for over 35 years as Mayor; president of the Board of Education; and chairman of the Planning Board. Over 500 citizens paid homage to Mayor Brett and he was appropriately commended by Senator Case of New Jersey; the present mayor, Matthew Feldman, and several other municipal officials. Clarence and Ruth hope to with us in June at Clauson's. We were very glad to hear from Arry and Larry Hart, but we are disappointed to learn that it will be impossible for them join us in June; they do extend greetings to all our friends and best wishes for a very happy week-end. . . . Again, we are very grieved to hear from **Alice Merrill** that **Millard** had a severe stroke last August and is still much incapacitated in a nursing home in Morristown, N.J. We shall miss you, Merrill, and hope that you may regain your good health so that you may be with us in 1968. . . . Our communication to **Don Van Deusen** has been returned. We wonder if any of our classmates can enlighten us regarding Don. The returns are beginning to arrive and so we expect an enthusiastic group of thirteeners to answer the roll at Clauson's on June 11, 1965.—**George Philip Capen**, Secretary and Treasurer, 60 Everett Street, Canton, Mass.

'14

We had a phone talk with **Art Peaslee** not long ago. He seems to have recovered from his indisposition of last year and it is business as usual with the A. F. Peaslee, Inc., Builders, Hartford. He had just returned from a three weeks' vacation in Puerto Rico. Art's eldest son, a Ph.D. who has been on the staff of the Australian National University for some time, has just finished a special assignment in the nuclear field at M.I.T. A younger son is in business with Art. . . . The passing of **Clair Ricker** not long ago has elicited much correspondence, for he had many friends. I have had contact with **Albert F. Hill** of 1618 Spurgeon Street, Santa Ana, Calif., who was part of our class for some time. He visited Clair not too long before his death and has shown me a couple of good pictures of him. Al is in the business of manufacturing various hardware supplies such as irrigation gates and rain gauges. . . . Changes of address have been received for: **Charles F. Thompson**, Course III, 1203 South High Street, Denver, Colo.; **Gabriel Harris**, Course III, 2180 Bay Drive, Miami Beach, Fla. 33139. . . . Harold has shown me a letter he received recently from **Bob Townend**, in which he mentions a slight stroke he had a few years ago from which he largely recovered. He also mentions a trip to Europe which would place him there about the time

you read this. Which reminds me, if by chance you are wandering around Europe this early summer don't be surprised if you bump into a '14er there. Thus far we have information that **Hugh Chatfield** and **Alden Waitt** and families, and possibly later, your secretary may be wandering around there. I'm sure there will be others, who, I am sorry to say will be disturbing our gold reserves.—**Herman A. Affel**, Secretary, R.F.D. 2, Oakland, Maine; **Ray P. Dinsmore**, President, 9 Overwood Road at West Market Street, Akron 18, Ohio; **Charles H. Chatfield**, Assistant Secretary and Alumni Fund Agent, 177 Steele Road, West Hartford, Conn.

'15

At last! It's here! Our 50th Reunion. What a lot of excitement. All roads will lead here and I can see you classmates from all over our country getting ready to come here for this once-in-a-lifetime reunion. Leading in the close competition for long distance honors is **Mary Plummer Rice**, who is coming on from Paris. Giving her a close race is a large group from the Pacific Coast. It will be wonderful for us all to be together again. Mary wrote: "Now the New York dock strike is ended, I should soon hear news from London when I can get a freighter home—and from where and to where. The possibilities are numerous—from London, Ireland, Antwerp or Hamburg and to Boston, Newark, Philadelphia, Baltimore, Charleston or Savannah. It really matters little to me as long as I reach Washington by April 15 in time for the D.A.R. annual congress. France is just as unsettled as all the world, and I'm ready to go home—but after a very busy life with courses and 30 hours a week at the U.S.O. I plan two weeks in London seeing many shows. English will be so enjoyable and restful after French theatre. I'm looking forward to the reunion with real excitement." . . . More fine letters with generous Class dues checks, **Allen Abrams**: "We have moved to a one-floor home to ease the wear and tear on the old folks. I'm still a consultant in pulp and paper to A.D. Little; I have an assortment of civic jobs; five grandchildren and a bit of hunting and fishing. I regret I'll probably not get to our 50th at M.I.T. as my 55th at my alma mater (Washington & Jefferson) comes at that time and we're trying to have a special event with a relatively small class. Very best to all the gang."

Joe Barnwell, Columbia, S.C. writes: "After leaving M.I.T. I went to work for Dupont as Engineer at Hopewell, Va., and at Parlin, N.J., making powder. I went to the Mexican Border as 2nd Lieutenant Co. A. S.C. Engineers, went to France as 1st Lieutenant and Captain Commanding Co. A. 117 Engineers 42nd Division. I fought through France and went into the Army of Occupation. I spent 18 years as bridge engineer for the South Carolina Highway Department, designing and supervising the construction of bridges through the State. In 1935 I went into the general construction business on

my own. Most of my work has been building highway and railroad bridges all over South Carolina for 30 years. I am married and have three fine daughters all married, and three fine sons-in-law—a doctor and two lawyers. One daughter is living in Columbia, S.C.; one in Walterboro, S.C.; one in Scotsdale, Ariz. I have eight grandchildren, four boys, four girls, and I hope to have some more. I am finishing up twin bridges over the Saluda River on Interstate 20 west of Columbia, and am starting twin bridges over the Great Pee Dee River on Interstate 395 northeast of Florence, S.C. As to retiring, I will be 74 years old in August, but I hope to be able to work for a long time.” . . . We are sorry that **Frank Boynton** has been laid up in Los Angeles and hope he has had a complete recovery. He wrote: “Greetings to all and sundry classmates who remember the old Texas boy. I do wish I could be with you at our 50th but think I had better not attempt it. I have just returned home from hospital after a bout with my old ticker. All seems under control now and am getting excellent care from my dearly beloved. Hope the reunion is a grand success and I am sure it will be. Cheers to all.”

On the “S.S. Rotterdam” for a round-the-world cruise, **Ken Boynton** wrote from Naples: “I received your bon voyage card on coming on board in N.Y. You were most thoughtful as always—many thanks. We had a very rough crossing to Gibraltar but I guess we can now expect better weather. This is a most interesting cruise with a fine lecturer, nice people and always too much going on. Our best to you all.” . . . We’ll all be glad to see **Orton Camp**, who joins the unanimous complaint against taxes: “Sorry I could not get to the class dinner I had planned to, but it developed that the last two weeks were the best for me to get away for a vacation, so I went to Florida for a little sunshine. Between business and a couple of outside interests I keep very busy, too busy; and the attitude of the government on taxes is more than disturbing. I am planning to get to our reunion.” . . . When we cancelled our long planned South American cruise, because of the dock strike, we phoned **Jerry Coldwell** and **Mrs. Purinton** at Naples, Fla. They went all out to help us find a place to go for the rest of the winter, but, with the boom on, there just weren’t any vacancies. We certainly do appreciate their interests and efforts for us at that desperate time of the winter. . . . A nice letter from **Henry Daley**, Philadelphia, with our thanks: “After returning home from the superb dinner in New York, the pleasure was compounded by finding in the day’s mail the 1915 booklet concerning the coming 50th Reunion together with the various class statistics. Congratulations to **Barney Landers** and **Bur Swain** for arranging such a delightful evening at the N.Y. Chemist’s Club. Also congratulations to you for preparing such a fine booklet which must represent a tremendous amount of time and effort. See you in June.”

While in Winter Park, Fla., **Jack Dalton** attended a luncheon where he met **Arthur Bond**, who is living down there

with his sister and **Nelson Stone** who lives in Barnstable, Mass. The Stones will be at our 50th. . . . **Hope Holway**, doing a P.R. job for **Bill of Tulsa, Okla.**: “I am writing this letter for Bill while he is over at the office getting out specifications for the turbines to be installed in the Salina Pumped Storage Project which follows our Markham Ferry Project on the Grand River, just completed. Bill’s work this winter has been mostly on this project. He goes to the Philippines next month to look over a hydroelectric project and some other work in that country. Because of this trip, he will not be able to say until late in March whether he will be in the U.S.A. in June. If he is, he hopes to join the reunion and will let you know as soon as possible. I am semi-retired from the office, but two days a week are full of odd jobs that I have done for so many years and the office seems to welcome my presence. Our two sons are the working associates, both M.I.T. men, D.K. our electrical engineer, and William N. the civil engineer and general manager. However, the advice and consent of the elders is still sought. There are three companies operating under the Holway name and doing water, sewerage, and industrial plant work in this area. Of the second generation from us one graduates from Harvard this June. one is a freshman at the University of California, and one at Oberlin. A granddaughter is in the engineering school at Washington University at St. Louis, hoping to do computer work later. Another grandson will study in Europe this summer and we still have another in high school and the youngest in an upper grade. So the generations rise and pass away, but that is acceptable when you can look back and say it has all been fun. Yours in hope for the reunion.”

Forrest Legard, Bath, Maine wrote: “I have retired and will arrive at my 75th birthday next June. I have enjoyed the privilege of being a member of the Masons, 32 degree, also a Shriner and Past Commander of Dunlap Commandery. I served in the Maine Legislature for three terms and was in the range oil business for several years. At present I am helping my nephew with his taxi business.” . . . Many thanks to good **Joe Livermore** for his kind words: “I have just received the Class of 1915 brochure and want to compliment you and the committee on such a splendid job. It will be treasured along with other M.I.T. mementos. That was a grand New York dinner meeting. I hadn’t seen **Bill Smith** for so long and it did my heart good to talk over old times with him and many others over from here. Again let me say what a thrill it was to sit down with the old gang last Friday and I look forward to many more such occasions.” . . . What a persistent and thorough course representative **Douglas McMurtrie** is. On a night when it was 85° where he was in Florida and 25° where I was in Cambridge, he phoned to report on the men he was contacting to go to the reunion. Nice work, Doug, and swell to talk with you down there. . . . **Fran** and I had dinner and a delightful evening with **Thayer** and **Dartha MacBride** in their lovely new house near Hingham Harbor, Mass. For the occasion, Thayer, broke out

some rare 1945 vintage bourbon which well bore out what the glamorous ads say about sippin. I thought this might stir **Ben Neal** to a similar such generous gesture. He answered: “I wish very much I could have been with you when you called on Thayer MacBride. Being somewhat of a Weymouth commuter, as I remember it, I used to know him real well back in the old days, and haven’t seen him for years and years. It would do my heart good to say hello to him. Any time you talk to him give him my best. All the nice things of quiet meditation to your good wife and yourself—Heaven forbid that in these days it should be anything strenuous! I hope you will be able to pick some violets from your garden this morning!” **Ben** meant well, but on the morning of his violet wish there was a blinding snow storm here.

The Vineyard (Mass.) Gazette, reporting the town meeting in West Tisbury, where **Charlie Norton** is the moderator, said: “The meeting with 60 present had taken only eighteen and one-half minutes. Mr. Norton, with a glance at the clock, chuckled and said he wasn’t sure if it was a record, but noted that if the budget hadn’t needed some last minute changes ‘we could have made it!’” Ever the thorough Charlie. . . . **Don Fowle**, Woburn, Mass., wrote: “I retired from government service with the Housing Administration in 1954 and from the practice of architecture in 1960. My older son is a doctor of mechanical engineering with A. D. Little and has a family of six—three girls and three boys. My two daughters are married and each has two daughters. My youngest son is an assistant librarian at the Lincoln Center in New York. My elder daughter’s elder daughter presented the world with my first great-grandson, last year. I have nearly an acre of land at the old homestead and the place keeps me interested for the most part of the year with my rock and azalia and perennial gardens. In the winter I more or less hibernate.” . . . **Frank Parsons**, Pelham, N.Y. wrote: “May I add my appreciation for your dedicated work over 50 years that has been so instrumental for the wonderful class spirit of 1915. It was good to see so many at the Chemist Club, and I am looking forward to June.” Thank you, Frank, for those kind words. It’s a pleasure to be secretary of the Class Supreme. . . . I had a pleasant and interesting talk with **Ben Nielsen, IV**, Needham, Mass., whom we haven’t seen nor heard from in many, many years. Later he wrote: “It was nice to hear from you once more. The last time was when I was with Abbott Associates on State Street working with Fannie Freeman. My wife passed away a year ago last Christmas. We would have been married 50 years if she had lived two months longer. I am a retired member of U.S. Army Corps of Engineers, with 16 years service. My rating was electrical engineering technician. I was retired March 31, 1963, however was recalled to duty April 1, 1963, in order to complete an electrical schedule for the New Bedford Hurricane Barrier. My retirement became final as of March 31, 1964. I am a member of: National Federation of Federal Employees, the retired

men's Club of Needham Y.M.C.A., and the Society of American Military Engineers. I do hope I might see you sometime. I am always home—best of everything." Ben enclosed a newspaper clip: "CITED BY ARMY—Benjamin T. Nielsen, 71, of 51 Plymouth Road, was honored recently with a performance certificate from the U.S. Army. His citation was signed by Brigadier General Alden K. Sibley of the Army Engineers and commends him on the excellence of his work in all respects. It says that because of his exceptional ability, he was given assignments beyond the scope of his job requirements. He is an electrical engineer draftsman in Needham. Mr. Nielsen came to Needham in 1929 with Mrs. Nielsen. During World War I, he was a draftsman for the Electric Boat Company. He worked at one time on a planning survey for the Town of Needham. His mother was Alice Nielson, a famous opera singer who was known in America and abroad."

Fred Stetson, Orlando Beach, Fla. wrote: "I retired in 1959 and have been living in Florida ever since. It's a very agreeable way to live down here and not nearly so hot as a lot of northerners think. Besides it costs only about half as much to live here as it does up North and on a limited budget this is quite an item. We live about 400 feet from one of the best beaches in the world—a beach 55 miles long. If you or any of my other M.I.T. friends should journey down here I hope they will look me up. We would be happy to see them." One day while **George Rooney** and I were checking the assortment at the M.I.T. Faculty Club bar trying to decide what makes names like Jack Daniels, Jim Beam, Ezra Brooks so famous, in walked **Pop Wood**. We had a small threesome of a 1915 Reunion. George and I made it home just in time for dinner, oh me! The uncensored part of Pop's letter is: "How are you all? Hope you have made the winter so far without any difficulty—except your old age troubles. You are sure doing a fine job with the 50th. Couldn't be better. I am planning to take in everything as my diet now is much more liberal and I do not think I'll have any trouble that way down on the Cape. If there is anything now I can do or advise you on this let me know. Is your nice wife still putting up with you? Tell her if she needs to she can come up here and we will take care of her (maybe). I still go down to the office once a week. Tuesday and Wednesday usually so drop in." We are all delighted that Pop has made such a remarkably successful recovery from his recent intestinal trouble that laid him up for a time. It surely will be grand to have him with us at the reunion. What a guy!

Despite his retirement and quiet, modest nature, **Speed Swift** gets into the news with a big write up in his local New Hampshire paper: "A special award was presented to Herbert Dyer Swift February 11, at a meeting of the New London Service Organization at New London Inn. Dr. J. Duane Squires, Chairman of the Social Studies Department at Colby Junior College made the presentations, Revere bowls and citations. Qualifications for the Third-of-a-Century Award are 33

years of consecutive residence in New London, in that time having been engaged in the same business or profession, and having brought credit to New London and the state. Mr. Swift does not meet the third-of-a-century qualification but he has given many years of service to New London. He was founder and first president of the New London Service Organization. Mr. Swift was born in Detroit, Mich. Since his graduation from Massachusetts Institute of Technology in 1915, he has been a mechanical engineer of several firms, and he was a teacher at M.I.T. from 1923 to 1928. Mr. Swift was a representative to the General Court from 1939 to 1942 and a state senator, 1943-1944. For many years he has been a member of the board at New London Hospital. He has served several terms as president of the town budget committee. As an associate of the re-employment commission, Mr. Swift received a Selective Service medal and citation from President Truman and Brigadier General Lewis Hershey. In 1932 Mr. Swift organized the Scytheville Technical Society. He is a director and secretary-treasurer of the New London Civic Association and is a former president and director of the Dartmouth-Lake Sunapee Region." With this in the newspaper was a good looking picture of Swiftie and Mollie holding their Paul Revere bowl gift. The beautifully designed hand engraved citation mounted in a leather case read (in part) "For distinguished Service to the Town of New London, New Hampshire, since 1928. In ways beyond easy computation he has invigorated and uplifted the life of his home town. . . . his business has been the improvement of our community life, and in this he has greatly succeeded." Congratulations to Mollie and Speed for this splendid tribute, richly deserved for their generous and devoted interest in their local civic and community affairs.

Joe and Marjorie Livermore have been resting and recharging their batteries in Ochos Rio, Jamaica getting ready for our 50th. . . . **Ben Hurvitz**, Melrose, Mass. wrote: "I am in business with my middle son Edward. My youngest son operates the Hallmark Travel Agency, Boston. My oldest son is assistant professor of far eastern languages in Washington University, Seattle, Washington. He is a specialist on Buddhism." A fine family Ben. . . . With a whopping big dues check, **John Homan**, Indian Rocks Beach, Fla., wrote: "Most of our time is spent on a 60 par golf course or else at the bridge table. I lose at both. The Hiltons and the Homans get together down here once in a while." . . . **Ralph Tiffany**, Winsted, Conn., writes a fine letter. We are glad to hear from you, Ralph, but sorry you have been laid up and will not be at our 50th. "I am extremely sorry I am not able to attend the 50th. But in the last 10 years I have spent too much time in hospitals, although I am doing a little better now. For personal history: I have been retired for the last seven or eight years after putting in 45 years operating a wood and corrugated box shop. One of my sons-in-law has taken this over now. My three daughters are all married and produced 10 grandchildren. I was looking over some old photos of M.I.T.

days, and came on a very good one showing among others **Chet Rumels** and his Stevens Duryea. Those were the days! In regard to present occupation I am putting in time on TV, radio and electronics in a very amateur manner. Best regards to you all." . . . What better finale to this wealth of class news than this splendid letter from Virginia and **Hank Marion**. It's marvelous that Hank has recovered so successfully and we are all excitedly looking forward to the pleasure of seeing him here at our 50th. "How time flies—it seems yesterday that we left home and yet it was three and one-half months ago, and I have been so busy doing nothing that I haven't written the letters I should have, including one to you. I appreciated the greetings you and all the gang sent me from the N.Y. dinner, and was going to write you right away. Well anyway, although late, thanks for the greetings from the gang and I'll be looking forward to seeing them at the 50th. Virginia and I stayed in Tucson for two and one-half months then came up here to Phoenix for a month to see how we liked it as compared to Tucson. The weather has been gorgeous and we are enjoying it very much. We plan to leave here around April 12 to 16 going up to Oak Creek Canyon area for a few days then on to Oklahoma City to spend a couple of weeks with June and Creed and the three grandchildren. We plan to stop over at Louisville, Ky., for a day or two on the way back and to be back home in Plainfield about May 10. I'll be anxious to hear the details of reunion, so please send them along as they develop, including a list of those who will be there. We hope you and Frances are well and raring to go and Virginia and I will be looking forward to seeing you in June."

All this ends sadly in reporting the passing of two classmates. **Carlton W. Lovell**, I, died January 30, 1965, in Wellesley. He was a resident of Wellesley for the past 14 years. He was the designer of the Whitingham, N.H., dam, near Wilmington, Vt.; the Bear Mountain Bridge over the Hudson River in New York and the Midtown Tunnel between New York City and New Jersey. He was also the chief engineer of the Triborough Bridge in New York. He was associated with the firm of Curton-Riley. He was a member of the American Society of Civil Engineers. Survivors include his widow, Katherine O. (Jones), two sons, Kenneth of Wellesley and Robert of Rochester, N.Y.; a daughter, Miss Katherine of Wellesley, and a brother, Ward C. of Kingston, Mass. . . . Orton Camp sent a clip from the Baltimore Sun about the death of **Al Water**, who died February 27, 1965, in Baltimore. Al had planned to go to our 50th with **Bill Spencer**. Orton wrote: "Am enclosing a clipping from a Baltimore paper, reporting the death of Albert Walter. He and I did our thesis together. It is some years since I have seen Al as our paths did not cross. It must be at least 30 years ago that I saw him last when in Baltimore, and had a very nice visit with him." He was born in Atlantic City to parents vacationing from Baltimore, where he was reared, graduating from Boys' Latin School. He attended the

University of Virginia and, in 1915, was graduated from Massachusetts Institute of Technology. He served as an Army lieutenant in France during World War I. He was a member of the Gibson Island Club and a familiar figure at regattas, where he often served on crews in sail races. In 1958 he wrote an article for *The Sunday Sun Magazine* recalling rowing on the Patapsco in 1908 as a member of the only crew Boys' Latin ever had. He was a member of the Maryland Club and the Greenspring Valley Hunt Club. He is survived by his wife, Mrs. Mary Mathews Whiteley Walter; a stepson, Richard H. Cromwell, Jr.; three sisters, Mrs. Bartus Trew, of New York; Mrs. Robert Walkinshaw of Seattle, and Miss Valerie Walter, of Baltimore, and a brother, Raphael Walter, also of Baltimore. The sympathies of our Class go out to the bereaved families of these two old friends. . . . In a few days, I'll be seeing you at our 50th Reunion—a really big date in our lives. Meantime, if you haven't paid your Class dues. . . . help Azel.—**Azel W. Mack**, Secretary, 100 Memorial Drive, Cambridge, Mass. 02142.

'16

That's what it is—the 49th—if you've been trying to remember what the next reunion is. And it's right here upon us. Hear the word from our president, that incomparable who writes us from the slopes of Davos, Switzerland: "Alles gut!! We leave here April 6 for Idlewild, N. Y. Lots of good snow and plenty of mountain sunshine. Best to all." And his second significant message goes like this: "On June 11, 12, and 13, we will meet at Chatham Bars Inn in Chatham on Cape Cod to celebrate our 49th Reunion. This has been a great location for us, and the arrangements with separate cottages and a couple of choice rooms in the main house has worked out nicely for us. Let's hope that good weather will once again permit the scheduling of a New England Clambake at the shore's edge. Also, remember there is a nice nine-hole golf course as part of the hotel property, and it offers an interesting test to golfers and duffers alike. Flights go into Hyannis which is only a short distance from the Inn, and if you will let us know when you will arrive at the airport we will pick you up there. Also, if anyone wants a ride from Boston or back to Boston we can probably arrange that too. From all indications in correspondence and personal contact, there will be another large turnout of classmates and their ladies. We hope that you will be with us. Sometimes it may seem like a great deal of effort for a weekend on the Cape but this isn't just an ordinary weekend—we always enjoy ourselves and benefit from it. And Alumni Day is June 14!"

In a letter from Willard Brown to the Irv McDaniels (copy to sec.) Willard writes: "Before we left Cleveland March 16, and came up here in brilliant sunshine and dry roads (Midland, Mich.),

a small bird flew by and mentioned that you two were on the go (or should I say prowling?) again! I dare say you are luxuriating in the brilliant sunshine of Mexico. Can't say though, that I really envy you. Hope everything goes smoothly and well with you. We didn't go to Barbados this winter, but now maybe the middle of April we will start West with the idea of getting to Glacier National Park (our favorite, I think, in the U.S.A.) about the time it opens, and maybe by that time we can get up to Banff and such, where we have actually never been before. Going West by Arizona, of course. (We always stop at Phoenix to have dinner at the Green Gables.) I do plan to be at Chatham Bars this coming June, Lord willin', as Arthur Godfrey would say." . . . Back in March Theron Curtis wrote that they had gone to Nassau for two weeks. "Weather was fine but of course I can always find something to criticize. There were too many tourists about. Saw brother Brophy at Idlewild Airport on his way to Montego Bay. He had his handsome grandson with him. Built a few clock cases this winter just to keep my hand in. Also a table or two. We have nearby some grandchildren and one great grandchild who gives us great fun. Philosophy? Huh! Well, I still think this country is going to H—gradually."

In the April issue we told the story of how Jeff Gfroerer was able to send Winston Churchill a copy of the one Churchill book that was missing in Sir Winston's library. Jeff mailed it on January 21 and Sir Winston died on January 24. Jeff notes: "I did not expect to hear from his secretary for maybe a month or more as the funeral was the following Saturday." However, here's a copy of the letter Jeff received: "28, Hyde Park Gate, London, S.W.7, 26th January 1965. Dear Mr. Gfroerer: How very kind of you to send 'Mr. Broderick's Army.' Although it arrived after Sir Winston's death it will join the regiments of his books at Chartwell. Thank you also for your sympathy. I hope that we shall meet some day. Yours sincerely, Anthony Montague Browne." Jeff adds: "Have you heard about Hen Shepard's 1913 Chalmers?" Sure enough, a note just received from Henry reads: "Many thanks for thinking of me when you saw that article on old cars in the Wall Street Journal. Drove my 1913 Chalmers 40 miles yesterday in the first Spring weather we have had. With all the new bearings and pistons it is still rather stiff but it limbers up every mile and already is a fine performing car." . . . A message from Steve and Jess Brophy in Jamaica reads in part: "We are having a great time. Weather perfect and children and grandchildren with us. We take them in two week tricks. You would enjoy Jamaica—it is really lovely."

Hovey Freeman reports on a nine weeks' trip down the east coast of South America, across the South Atlantic and a stop at Tristan da Cunha, and further across to Cape Town, South Africa and up the east coast, then through the Suez Canal, Egypt, Italy, France, Spain, Portugal, and home. "We enjoyed every moment of the trip. South Africa was a de-

light, very prosperous, modern cities, lovely new buildings and fine gardens. We saw a tremendous number of animals of all kinds and descriptions in Kruger National Park, driving some 200 miles over very dusty roads and many times delayed waiting for large herds to cross the road. My wife and I laughed until we almost cried in a small jewelry shop on the main street in Mombasa (in Mozambique). A Hindu in his turban and dirty gown, etc., spoke only broken English. He said: 'You Americam Millionaire.' I said: 'Why do you say that?' He said (and we omit a detail here; Sec.): "Look at me—no money, no belly—Look at you, lots of money, big belly—big Millionaire.' So if any of you boys want to rate as a millionaire I suggest that you put on some weight and go to Mombasa. Taormina in Eastern Sicily is a fascinating place. We enjoyed Italy where we had a ride over to Capri in one of the hydrofoil ships which goes about 45 miles per hour. The only complaint was that it was rather rough. The Blue Grotto at Capri was as beautiful as ever. I cannot get over the tremendous growth everywhere, South America and the African continent—also Italy, France, Spain and Portugal. Beautiful new buildings and the population doubling about every 10 years." Hovey says he took over 1,200 colored photographs!

We have interesting observations from Irv and Kay McDaniels, our travel-reporters-of-all-continents, while on their two months' discovery-tour of Mexico and Guatemala with special attention to ruins in Yucatan. On their down travels in early February, they wrote of beautiful Lake Chapala thus: "This is the largest lake in Mexico. Many Americans live here who have not renounced their citizenship. We have friends here—he cannot work and his entire income of \$5,000 a year is tied up in New England and on which he pays taxes. They come down here each year, have a magnificent place on the lake, their own marina, their own swimming pool, gardens loaded with tropical fruit—never have I seen such mangoes. And each year they save \$2,500." The next place "is a must—Lake Patzcuaro—where there is the famous Posada Don Vacso. [Posada means inn.] It is one of the highest lakes in the world, and it hasn't changed one iota since the Spaniards discovered it over 500 years ago. Reserve the hotel guide, Tony Torres, before you get there. These Indians are gay, happy, colorful and they don't want any changes. Most of Mexico's Indian dances originated here. They have refused our Peace Corps but UNESCO has managed to worm its way in." A little later in Acapulco, they were delighted with their reservations at Las Hamacas which they had obtained three months in advance. "They have the finest tropical fruit we have seen or tasted anywhere. The first thing every morning they bring an eight by six foot tray filled with all available fresh fruit." Later, down in Yucatan, Irv inserts the following little story entitled: It's a Small World, saying: "Here I was, miles from civilization in the stillness of a tropical forest jungle, surveying an old ruin. And

a lone fawn came out of nowhere and crossed my trail for a fleeting second. Her name is Mrs. Caroline Critchlow Dishman, from Louisville, Ky. She is **Dina Coleman's** daughter's (Dora) very best friend. She said the first time she met Dina: "He was in his shorts and tennis shoes, and he was wearing a monocle, and he was polishing his car with his cashmere sweater." And in a letter written in Chicken Itza (ruin) in Yucatan, Irv advises: "If you want a thrill of a lifetime, a conversation piece that will last for years, then take a day's trip through the jungle in a Jeep. The most accessible and easiest of these trips is the one where you visit the ruins of Sayil and Labna. You will see all types of orchids, (except Catalayas), the original primitive red hibiscus and sky blue morning glory, flowers of every shape and color. And such magnificent colored birds. They are all noisy and talk—one says 'What time, what time, what time.' Plenty of wild life. We never saw any coral snakes or bushmasters, but our guide said that thousands of them saw us!" We'll have more of Irv's travel stories in the next issue, but are sorry to report that their trip was cut short late in March. As Irv writes in Puebla, close to Mexico City: "That night I spent under an oxygen tent and the M.D.'s told me to get out of the high altitude (7,200 feet) and to stay out. And so after all my years of careful planning and study, I threw into the waste-basket all my plans to climb Mt. Kilimanjaro, Kanga Farbat, and Annapurna. So we cancelled our trip to Mexico City. I wanted to tie up the Aztec civilizations with the others, especially their ruins and pyramids of San Juan Teotihuacan, one of the most important archeological discoveries in America. So we detoured and headed for Laredo, Texas. We are now (March 31) in Monterrey, only 100 miles from the U.S.A. and this ends our Mexican trek." Again our many thanks to Irv and Kay for their through-the-eyes-of-the-artist comments on Mexico; and best wishes ahead!

Bill Leach, back in Austin, Texas, from their farm in western New York since mid-November, says: "As everyone knows, Austin has become one of the most important towns in the U. S., second only to Stonewall, Texas. We keep very busy in retirement. One thing that is on my mind, very much, is to try and get one of the new (or existing) nuclear power plants named for Bob (**Robert E. Wilson**). Bob was really the leader in getting the bill passed through Congress to allow private industry to use the nuclear fuels for the generation of energy, etc. If any of our classmates or M.I.T. Alumni can help, or have suggestions along this line, they will be most welcome. Hope to see you all at the Cape in June. Helen has her 40th Class Reunion at Wells College the last part of May. I'll pass up the University of Chicago this year, although the recent passing of Amos Alonzo Stagg brought back many fond memories." We all know of Bill's football background with Stagg way back when! . . . We've been waiting for what we thought would be scads of Mallocran Philosophy from

Don and Nell Webster, who have been spending time since early February in Palma, Mallorca. We do however have Don's first installment which reads: "Up the street under the trees is where I sit at a sidewalk cafe, sipping coffee or a vermouth, and watching the girls go by. Mallorcan philosophy seems to be the same as mine, *carpe diem*." We had to look that up in the foreign phrase dictionary, because we have, instead of any book-learning of Latin, a hand-made High-School-manual-training solid-oak Larkin-design chest of drawers in our attic!

Joel Connolly's card in February said they had four inches of snow in Tucson, Ariz., where they now live. . . . Going back to the skiing business, we have a copy of the Ski Special page of the April 2 issue of the London Daily Mail with an article written in Pontresina, Switzerland, under the caption "The Slope That Makes Skiers Weak at the Knees." And alongside this article, we have some long-hand writing that says: "**Ralph Fletcher** made descent referred to in this article with me. Paul Valar, Vice-President, Professional Ski Instructors of America." We quote a bit from the article: "Isla Pers—the Lost Isle—is a name which only first-class skiers should care to remember. For them it stands for courage and skill such as is demanded on few other occasions in skiing. Isla Pers, near Pontresina, is reputedly the steepest skiing slope in the European Alps and is also about the narrowest. Many a fine skier has had that feeling of emptiness in the stomach as he stood at its upper end, 9,200 feet above sea level. I have seen girls whose skiing prowess was good enough for a S.C.G.B. first-class test breaking into tears as they looked down that slope." But it doesn't scare our Ralph! He notes: "It is really not nearly as difficult as the newspaper article would indicate. However when I made this trip I had with me a New York business man, Herbert Salzman. . . . Halfway through, he turned to me and said, 'Ralph, if our insurers knew we were here, they would not hesitate to send a helicopter to rescue us.'"

And again, speaking of reunions, **Mer-rill Pratt** writes from Prattville, Ala., "I have always heard that 'The road to Hell is paved with good intentions,' and I now find that I should be applying that same thing to my promise to myself that I will attend the next 1916 reunion." . . . **Dave Patten** continues to make history, or remake it, at Plimouth Planation where as we all know he had the "questionable distinction" of being the first fund raising executive director. For the past year or so he has been enmeshed in Boston's great effort to eradicate old and defunct areas. "The water front has been one of these," says he, "and I have worn out much shoe leather in my appraisals of famous old sites such as 'T' Wharf, Long and Lewis Wharves, the Quincy Market Cold Storage Warehouse, the old Custom House. My friend General McCormack, who heads the Mass. Bay Transport Authority, has listed me as one of his official appraisers. This often ends up in the Suffolk County Court for condemnation awards. One of these cases recently was

the Earl Hotel which for many years provided habitation in that section of the city famous for the Old Howard, as some '16ers may recall. For some reason, I'm a member of the Society of Real Estate Appraisers (in good standing) and can be found most days of the week at 45 Milk Street as an associate of F. P. Morgan Company. On the schedule for early April is a long planned revisiting of former Marshall Plan activities in Portugal and Spain. The inoculations are over with, a car is awaiting us in Frankfurt, and we will be motoring across central Europe before too long."

Val Gooding, now living in Clearwater, Fla., says "on the whole we like it here but miss old friends. However, they were moving away from us, some going even farther North to retire. One has gone back to the old homestead in Montana of all places. There has been hardly a day I couldn't get out doors and this I like." . . . **Dana Barker** of Roselle, N.J., says he spent 20 years in the plastics division of Union Carbide Plastics Corporation, retired in 1956, and in 1960 started working again as a plastic engineer. Says: "Still very busy. Have six grandchildren, all girls, and one great granddaughter. Have been to Florida several times and like it very much. Met two 1916 men, Col. **Walter Wolfe** who lives in Bradenton—has a nice home—also **Raymond E. Smith** in St. Pete. I am sure **Emory Kemp**, **Ken Sully**, and **Whiting** would remember Smith as we all went to Chauncy Hall School. My oldest son is in the antique business in Dover, N.J., while the youngest works for the Port of New York Authority as an artist. In the picture of the last reunion, I recognize two men, Emory Kemp and Bob Crosby. Would like to see Bob some time. He, and Bud of 1917, and **Frank Drake**, now deceased, and I used to play bridge together in the old cage in Boston." . . . **Eric Schabacker** notes: "Had a nice visit with **Ray Brown** in Niagara Falls a short time ago. Ray is happily retired but keeping busy with community service of various kinds. We have just brought our granddaughter home to spend her spring vacation from Wilson College with us. Her home is in Coronado, Calif."

Cy Guething writes that he and Gyps are looking forward to the reunion. Says: "We shall hope for a duplicate of last year when we went down on a Thursday and returned Monday. We shall not return to the Ojibway Club at Pointe au Baril—have sold our interest. Instead we are planning on touring New England and particularly Maine for at least a month. Our best to all." . . . **Peb Stone** sent us a card in March from Las Vegas showing some "Yucca Whipplei" with the comment: "You really have to go a long way outside of Las Vegas to get a view like this. Wonderful electric signs in town though and the darnedest conglomeration of architecture, although that's not the word for it. Good night clubs and casinos—haven't seen Admiral Sullivan '17 yet." . . . **Kem Dean** says that since their trip to Williamsburg, Va., Washington, and New York, "we have been sticking pretty close and really don't have any news of interest to pass along to you."

I did attend a dinner here in Houston for Dr. Killian which I enjoyed very much. His speech on education methods, changes, etc., was most interesting." . . . The April 8, monthly Class luncheon in the Chemists' Club in New York (52 E. 41 St.) included five '16ers—Messrs. Binger, Dodge, Maverick, Stern, and Stone—and some eight '17ers. Golden buck rarebits were the order of the day. **George Maverick** was the surprise guest, and was about to embark with Mrs. Maverick on a two months' trip to and around the Greek isles. These 1916 luncheons are held at noon on the Thursday following the first Monday of each month, except July and August.

We regret to report the death of **Maynard Guss** on February 20, in Santa Barbara, Calif. As Mrs. Guss wrote shortly thereafter: "Maynard was in bed in his own home with inoperable cancer for six months. He continued his work as treasurer of the Unitarian Church, had visitors every day. His courage was an inspiration to everyone." The Santa Barbara New Press reported: "He was for 32 years an engineer for the Standard Oil Company, including 26 years in China and six years in New York. He came here from Great Neck, N.Y., in 1948 and had lived here since. Mr. Guss was a charter member of the Retired Business and Professional Men's Club, a member of the Unitarian Church, of which he was treasurer for 12 years. Surviving are his wife, Maud, whom he married in Yokohama, Japan, in 1918; two daughters, Mrs. D. E. Youngblood of Charlotte, N.C., and Mrs. Martha Robinson of Santa Barbara; two sisters, Mrs. Walter Worthington of Floral Park, N.Y., and Mrs. Stewart Barnaby of Brookline, Mass.; two grandchildren and two nephews." . . . We have items on Van Bush, Bill Barrett, Steve Brophy, and Allen Pettee that we will report in next month's column. . . . Again we close the column with a note of appreciation to those who have answered so nicely our calls for lines or paragraphs, or stories, or bits of philosophy. Remember all, that the 49th Reunion is now here, on Friday, Saturday, and Sunday, June 11, 12, and 13. And to keep the little old Class column full and interesting, write a little but write often.—**Harold F. Dodge**, Secretary, 96 Briarcliff Road, Mountain Lakes, N.J. 07046.

'17

If you have not already signed up for Alumni Day, let this be a reminder to join with other '17ers on that day. It is always a most pleasant occasion not only to meet classmates, but also to renew acquaintances with friends in other classes. . . . This month, **Ken Childs**, who resides in Needham, Mass., brings us up to date on his activities since 1917. He writes: "Reminiscing after celebrating my 71st birthday in February, I would say that my stay on this earth, so far, has been quite average. Like most of us '17ers I spent a couple of years in World War I in France

and England. I followed engineering in fire protection work for three years and then, from 1923 until retirement in 1961, I was with the William Carter Company, merchandising several of their famous 'Carter's' lines, from infants' wear to women's girdles, pantie girdles and bras. Supervising the fit of some of these garments can be very interesting, I assure you. Financially, there are probably a number of the boys who have done better, but I have felt quite happy in the life I have had. Kenneth Jr. graduated from M.I.T., Course I, in the class of 1952 and is following engineering. Our daughter is located in Virginia. Both are married and have three children each. The oldest grandchild is back in Boston studying nursing at Children's Hospital. Having enjoyed the taste of travelling in my army days, Gladys and I have kept our hand in ever since. We have visited my old World War I scenes in France and England and, in 1962, after retirement, spent some time in Scandinavia, visiting the land of the midnight sun. In July 1964, we crossed Canada by train, stopping at Banff and Jasper in the Canadian Rockies, and then on to Vancouver, and by boat to Alaska via the Inside Passage. It looks as though I'll be slowed down in taking extended trips in the future as in the summer and fall of 1963 I had a coronary attack, and, to make matters worse, bad back arthritis took over last September and required another hospital visit of several weeks. I have been told that plenty of aspirin should keep this under control. My flower garden is a great source of enjoyment and provides most of my outdoor activity. I do enjoy photography and have color slides of most of our trips. We have an active Retired Men's Club in Needham and among the members are **Roland (Pete) Eaton** and **Daniel Comisky**. What would I do differently if I had to do it over again? I have often mulled this over in my mind. Maybe I should have followed engineering closer—maybe settled away from New England—or even tried harder to get into the administrative end of a business. But, after thinking it all over, I have come to the conclusion that this life, as I have lived it, hasn't been too bad. I have never been out of a job, have had a happy home life for 45 years, and look forward to many more. I have been able to watch both of our children and grandchildren develop. When leaving my office after a busy day, I often used to repeat a few lines from Longfellow's poem 'Under a Spreading Chestnut Tree' as follows: 'Each morning sees some task begun, Each evening sees it close. Something attempted, something done, Has earned a night's repose.' . . . Somehow, it made me feel ready for a good evening meal."

Walt Beadle reports that his February and March activities were as follows: "For the past month (February) and perhaps one month more, I am devoting considerable time to studying Delaware's need for additional revenue. I am doing this as vice-chairman of an ad-hoc bi-partisan committee appointed by the governor." . . . The Sixteenth Annual Brotherhood Award Dinner of the National Conference of Christians and Jews in Houston, Texas, honored **Richard T. Lyons** with

following citation: "Who, because of his devotion to his church, has been honored with membership in the Equestrian Order of the Holy Sepulchre of Jerusalem; Has been led to exercise charity and goodwill toward all men, with deep personal conviction and compassion; And for his contributions to inter-religious understanding as a former Catholic Co-Chairman of the Houston Chapter of the National Conference of Christians and Jews." Dick's secretary writes: "This is indeed a much deserved award and recognition for his many efforts in the field of brotherhood." For those who may not be familiar with the organization, the following is quoted from the dinner program: "The National Conference of Christians and Jews—sponsor of this annual event—was founded in 1928 by Justice Charles Evans Hughes, Newton D. Baker, S. Parkes Cadman, Roger W. Straus, Carlton J. H. Hayes and other equally distinguished Americans. It is a civic organization of religiously motivated people, seeking through education and discussion to promote civic cooperation and mutual understanding among all people of good will—without compromise of religious beliefs. Its purpose is positive: to more nearly approximate the national ideal of 'one nation, under God, indivisible, with liberty and justice for all.' N.C.C.J.'s program is educational and follows a varied approach to the intergroup situation in the community. It reaches millions of Americans each year through programs conducted through existing institutions and organizations in our society. It is not an interfaith movement. It does not aim at any sort of amalgamation of religious bodies, nor does it seek the least common denominator of religious doctrine. It is neither a propaganda organization nor a pressure group. It does not lobby; it does not pass resolutions viewing with alarm. It is not an action group, in the usual sense. But the education it seeks to promote is itself a profoundly significant form of action if it produces a change of heart and influences behavior. N.C.C.J. provides a means for people of good will of different religious persuasions to work together for the common good."

Here is one classmate who really enjoys retirement. Listen to what **John Holton** writes from his home Grand View at Skaneateles, N.Y. "By the last of August this year I will have been retired for five years, and I want to say that I do not believe that anyone has enjoyed their retirement more than I have. I admit that I prepared for it, as I believe everyone should. Also I will admit that having a wonderful wife with me for almost 46 years, four fine children, two boys and two girls, all happily married, and eleven healthy grandchildren along with a host of good friends has made the perfect basis for a happy life. The last five years of 30 years with Carrier Corporation I was gradually eased from line operations as vice-president of a division into staff work and then into retirement. I recommend this plan to help prepare the way for retirement. After looking over Florida, and even buying a place there, we decided against living there. We

built a home here in central New York on 20 acres, about 250 feet above beautiful Lake Skaneateles with a view 10 miles up the lake to the south and three miles across the lake to the west. We are in a small rural town of Spafford—where they still have the old fashioned party caucus instead of a primary. Here (Skaneateles) I built just the house I have always wanted, plenty of room, a grand view, a large workshop, a big game room with billiard table, two fireplaces, and where every room in the house faces the lake. Less than two miles away is our camp on the water's edge, which we have had for the last 15 years, and which now serves to house our children and grandchildren as they come to visit during the summer months. Here we have a 16 ft. Pen-Yan boat with a 40 h.p. outboard motor. Around the house I use a 10 h.p. Wheelhouse tractor to mow about two acres of lawn and care for a large garden. Also, we have dug a one-third acre farm pond that we are stocking with bass. We thoroughly enjoy the rural life (Syracuse is only 25 miles away), the people are so friendly and will do anything for you. I work out of doors when I can and in the shop when I cannot. Recently, I have completed a pulpit and a lectern for the small rural church here at the crossroads. Just so that I do not lose touch with the business world, I have a small consulting contract with a local entrepreneur who builds shopping centers and likes my help in layout work, and, as he says 'keeping me out of trouble.' Also, I have just done a small job for one of the Carrier plants. This keeps my hand in and does not take more than a couple of days a month. We like the change of seasons in this part of the country as long as we can get away for a month or so in the long winter. This year, we had a fine freighter cruise in the Caribbean. Sometimes we go to Florida. We try to combine these trips with a visit to the middle west where two of our children live. Last fall we went to New England after enjoying the interim reunion at the Equinox House in Manchester, Vt. One son, Robert, went to M.I.T. just 40 years after I did, and believe it or not, he had classes under Doc Lewis. So far none of the grandchildren are headed that way. Two of the granddaughters are following their mothers to Mt. Holyoke. I guess it was lucky that I went to M.I.T. when I did—I'd probably not get in today."

Enos Curtin has added another service organization to the many to which he devotes his management talents. The New York Herald Tribune of March 27 announced: "Enos Curtin is the new senior vice-president of the St. Barnabas Hospital, which was founded in 1866 and is the oldest chronic disease hospital in the country." . . . The following quotation from the introduction to Part Nine of the book *Light From Many Lamps* (Simon and Schuster) with the title *Contentment In Later Years* may be of interest to '17ers: "There is no reason to dread the passage of time. Age is, or should be, the rich and happy fulfillment of life—the shining consummation of all that has gone before. 'Don't be ashamed of your gray hair!' wrote Wil-

liam Lyon Phelps when he himself was 62. 'Wear it proudly, like a flag . . . Grow old eagerly, triumphantly! With age come wisdom and understanding. With age come many joys and compensations. 'Each part of life has its own abundant harvest, to be garnered in season,' said Cicero. 'Old age is rich in blessings.' All through history we find convincing proof that mental powers increase with age, that artistic and intellectual powers are often intensified in later years. Michelangelo was still producing masterpieces at 89. Goethe completed the second part of *Faust* when he was 82. Wagner finished *Parsifal* at 69, and Voltaire wrote *Candide* at 65. Handel was still composing beautiful music, Longfellow was still writing immortal poetry, after 70. Some of the greatest tasks ever undertaken by men were begun and carried through in what are called life's declining years. In *Life Begins At Forty*, Walter Pitkin points out that nine-tenths of the world's best work has been done by older people, well past their prime. 'To know how to grow old is a masterwork of wisdom, and one of the most difficult chapters in the great art of living,' wrote Henri F. Amiel in his famous *Journal*. This is truer today than it has ever been, with the life span lengthened and the opportunities for older people greater than ever before in history." Following this introduction to Part Nine of the book are, "some of the world's most famous quotations on old age, on contentment and security in later years, and on keeping oneself young in heart and mind."—**W. I. McNeill**, Secretary, 107 Wood Pond Road, West Hartford, Conn. 06107; **C. D. Proctor**, Assistant Secretary, P.O. Box 336, Lincoln Park, N.J. 07035.

'18

The boomerang is a wondrous, angular instrument which can be thrown so expertly that its flight brings it back close to the place from whence it was launched. So comes back to us a freedom from responsibilities which we went forth after graduation to seek in far places where men jockey among themselves for power and for prestige. **John Poteat** says the thing he likes best, now that his professional flight has come to rest, is "immunity from the tyranny of the clock." Upon what he calls a mountain, two miles out of Tryon, builder of enjoyment and of light that he is, he still takes off like a missile seeking its mark, for he is (1) chairman of the Blue Ridge Assembly Inc.; (2) vice-chairman of the Brevard Music Center, a camp where teen agers and young adults have auditions and give concerts; (3) a member of the Polke Planning Board, which has to do with water and zoning; (4) on the board of the Tryon Riding and Hunt Club; and (5) vice-president of the Tryon Mutual Concert Association, which puts on a series of concerts each winter in an area of only 4,500 people. He was formerly president of the Louisville Symphony and, let it not be forgotten, leader

of the M.I.T. Glee Club. The Riding and Hunt Club is for horse enthusiasts. It has something to do with the U. S. Olympics, it runs hound trials, gymkhana meetings, picnics, and dog shows which include, for those who are trenchantly critical, a prize for the pup "of the most doubtful ancestry" and one for the dog "most likely to succeed."

Boomerangs resembled bread in that, cast upon the waters, they return. **Fred Philbrick** answered a plea from your scribe, saying, "The Longley brothers—the heavenly twins as 'Blackie' used to call them—are in town and I expect to see them before they leave. They stopped by yesterday afternoon but we were out, so they left a note. I am planning to make a trip to the west coast of Florida later in March and will look up **Grannie Smith** while over there. I have just been to the doctor for my annual general examination and received a good bill of health, for which I am very thankful. We have now been in Florida for 10 years and I really believe life here will add to my years on earth. Hildegard joins me in best wishes to you and Carolyn." Though retired, Fred is by no means idle. He borrows large amounts at 5 percent interest and loans it in small amounts for second mortgages at 10 percent. He swims regularly in the warm ocean and, with his wife, crossed it a few years ago to visit her relatives in Vienna. Everyone treated them royally. East Berlin was drab, west Berlin well-lighted, clean, prosperous. Hence the infamous wall. In East Germany the roads are rough cobble stones but the bicycle paths are smooth. There is more of a hint than a moral in this. The government decides who goes to college and who to trade school. (I sometimes wonder how many of us would have been accepted in M.I.T. by its present standards of admission.)

Deep calleth unto deep, the good book says. The income tax installment is due again. The boomerang comes back. So we of 1918 will break the deadening rhythm of life and go back to the Wianno Club at Osterville on Cape Cod for June 11-13, in the expectation of the same stimulating experience we enjoyed two years ago. I remember **Eli Berman** telling me at that time of his being the ultimate student, for he was spending what would otherwise have been idle time, working for a master's degree at Northeastern. He had just received an "A" in math, and was as eager about it as though it had been 1915. Now come letters from classmates with a ceaseless yeasting, eager to set off for Osterville with belongings tied in a handkerchief at the end of a stick, or in the trunk of a Cadillac, and wanting a reservation. **Herb Larner** says, "It's a long time since I've been to a reunion, so with Mrs. Larner, I'm planning to be on hand. I used to be a member of the Wianno Club. The last time we met, I think I introduced you at the New Jersey M.I.T. Club meeting in East Orange. I hope you've been behaving yourself since then." . . . **Leonard Levine** says he and Gladys are planning to be there. **Fred Philbrick** hopes to be. **Johanny Kilduff** and **Sax Fletcher** surely will be. . . .

With a great man's complete disregard of self-importance **Bill Foster** writes, "As much as I would like to come, I am afraid I will have to miss it. My schedule is difficult to predict. If it happens that I am free I shall let you know, hoping that I am not too late to get in on the festivities. It would be grand to see you and some of the classmates again." As one who has never yet missed a 1918 reunion, only calamity imposed upon disaster will prevent this boomerang from returning. —**F. Alexander Magoun**, Secretary, Jaffrey, N.H.

'20

The Alumni Association has appointed **Pete Lavedan** to the post of class estate secretary. His duties will cover pointing out and explaining to members of the Class the many ways of deferred giving to the Institute and how and with whom it may be arranged. . . . After 40 years and a distinguished career in the printing machinery business, **Buzz Burroughs** has given up the vice-presidency of The Dexter Company in favor of honorable retirement and, glory be, is coming back to the old home state. He and his wife, Pat, have selected Topsfield, Mass., and have moved there from Hartsdale, N.Y.—just in time to make the easy run up the Mass. Pike to the reunion. Buzz was tendered a big testimonial dinner by his company in New York City, 150 attending, including Mich Bawden. '21, who flew up from Florida to participate. Mich composed and delivered one of his inimitable "poems" for the occasion. It gives such a good account of Buzz over the years that a portion of it is presented as follows: "Twas eighteen hundred and ninety-nine / At the Burrough's home and right on time / Came a lovely baby you will avow / But alas, alack, look at him now. / From diaper to shorts and still he grew / High to college to be on the crew / He learned to mix a certain brew / What was ahead of him no one knew. / The next milestone in our hero's life / Was to ask Lucille to be his wife. / Buzz loved this gal and so to hold her / He got a job with the Cleveland Folder. / When Malcolm's days became complexer / His firm was sold to a gang called Dexter. / There is hardly a man now alive / Who should be retired at sixty-five. / Many are young at eighty-four; / Buzz at ninety will rate some more. / So, to you Buzz, I'd like to mention / It's nice to get that monthly pension / And then to make things just dandy / Social Security is pretty handy. / So come on over and join the band / Make room for a grand guy—give him a hand." To the sentiment in that final stanza, the Class of 1920 heartily subscribes, Buzz. The parting gift, presented by the Printing Industries of Metropolitan New York was a weatherscope, an appropriate recognition of Buzz' prowess as a yachtsman. It may be recalled that Buzz' sailing proclivities stem from his Navy service in both World Wars and up

to his retirement with the rank of commander, U.S.N.R. Buzz has also served as president of the board of governors of the Club of Printing Craftsmen, and as chairman of the printing industry's annual golf tournaments. Incidentally, he won the tournament only three years ago.

Jim Parsons got back from his customary round-the-world cruise in time for the reunion. . . . And a card from **Chuck Reed** indicated that he had been back to his old haunt, St. Croix, Virgin Islands, during the winter season. . . . A welcome note from **Bill Freeman** said that his plantation in Poplarville, Miss., was keeping him too busy to get up north this month but that everything was fine with him and Mrs. Freeman after a warm and pleasant winter. Bill says: "I have never had any regret about choosing this location (an easy two hours drive from New Orleans) for my final years. The plantation is doing well and keeps me so busy I am only reminded of my age by other people."

Bob Sjostrom, President of Sjostrom Automations, Inc., manufacturers of automated machinery, Boca Raton, Fla., sent me a copy of his letter of protest to Morse Chain Company for an ad of theirs featuring M.I.T. as "Morse Institute of Technology"—certainly an unwarranted use of these famous initials. Glad to see this loyal alumnus and classmate keen of eye and spirit. . . . **Will Boyer** is in Santa Fe, N.M.; Box 1884. . . . Will tell all you unlucky absentees from the 45th all about it in a later issue of The Review—**Harold Bugbee**, 21 Everell Road, Winchester, Mass.

'21

June always means a gathering of the Class of '21. So, in the next few days, you'd better complete your arrangements to be with the group on Monday, June 14, 1965, on the intriguingly new and ever-changing Technology campus in Cambridge. Call the Alumni Office right away for tickets and ask where you and your wife can get accommodations in the area. Then drive or fly and be certain that you are on hand for the set of outstanding events that are lavishly provided each year for the entertainment and amazement of all comers. Look for familiar faces at the morning registration and find out where the '21 group convenes in the Great Court at lunch time. Don't put off attendance any longer—come this year and get the regular habit. You'll be glad you did and you'll make a lot of others happy to see you. . . . We're tickled pink to know that **Paul** and **Mrs. Rutherford** will join the throng. Writing from 7 Valley Road, Nahant, Mass. 01908, the former general manager of Delco Appliance Division of General Motors Corporation says: "Just to keep your records up to date, I am now living at the above address. I retired after 39 years with General Motors and am enjoying the life of a retired (not tired) business man. Now production planning and control. After

that I'm nearer the Institute, I hope to get to Alumni Days and to the reunions better than I did in the past. Hope to see you there next June." . . . In balmy 88 degree temperatures of early April, our Class Agent and the Institute's first Class Estate Secretary, **Edmund G. Farrand**, phoned us from his home in Leesburg, Ga., on two successive days with news for these columns. Ed said that **Al** and **Emma Lloyd** had spent a most enjoyable time with him and Helen on the occasion of a visit they made to their daughter, Edith, in Atlanta. **Dug** and **Betty Jackson** also stopped at the Farrand's home, Kinchafoonee Lodge, on their return from a South American cruise and a visit to the southern branch of their family. Ed reported he had just read **Dave Woodbury's** first science mystery thriller, "Five Days to Oblivion." Says Ed: "It gave me a special thrill, since it came from the pen of a classmate." Dave's sequel, "Mr. Faraday's Formula," should now be in the bookstores and he and India should now be back from their California trip in time for our Alumni Day gathering. Ed has sent us an illustrated article from the March 30 New York Times, showing **Augustus B. Kinzel** introducing one of the speakers at the dedication of New York University's new Washington Square building, Warren Weaver Hall, which will house the Courant Institute of Mathematical Sciences for which Gus chairs the governing council.

Joseph C. Morrell writes that he retired at the end of 1964 from the real estate appraisal profession and expects to follow a number of his hobbies, foremost of which is trout fishing. He does not plan extensive travel and says he will attend our 45th Reunion in June, 1966, at the Griswold in Groton, Conn. Joe will continue at his current address—90 Bryant Avenue, Dorset 5B, White Plains, N. Y. 10605. . . . A letter to Ed from **Herman S. Kiaer**, 39 Broadway, New York, N. Y. 10006, says, in part: "As to our reunions, I have been sadly amiss for many years, chiefly because I have been traveling a great deal. I go to Europe three or four times a year through my representation of Norwegian shipping interests engaged in cargo-liner traffic with the United States. Also, my wife and I have had the opportunity for pleasure traveling in most parts of Europe." . . . **Benjamin Fisher** of 30 Van Brunt Avenue, Dedham, Mass., writes, in part: "In May, 1964, I retired as secretary and assistant treasurer of the Kendall Company after 39 years with the firm, makers of surgical dressings, woven and non-woven fabrics and elastic goods. I now have ample time for travel; however, I'm not completely 'footloose and fancy free' as I married late in life and have three teenagers to put through secondary school and college—after retirement." Following graduation with us, Ben received a degree from Harvard Business School in 1923 and joined Lybrand, Ross Brothers and Montgomery. From 1925 to 1946, his assignments with Kendall were in manufacturing and included appointments as assistant to the works manager and head of

serving in various corporate and financial capacities, he was named assistant treasurer in 1950 and secretary in 1952.

John T. Rule, Professor of Engineering Graphics at Technology and former dean of students, is in the headlines as a speaker on sex in relation to college administration problems in a continuing forum at Davidson College. Via a clipping which our daughter, Ellie, extracted from the Grand Rapids Press, we have a human interest story on Jack, datelined New York, and reporting his talk on "The Parental Dilemma" at Children's Hospital Medical Center. The gist of Jack's argument is that college life would be more productive if students spent one or two years working away from home or in the armed forces before tackling a campus, thus breaking the ties that bind too tightly on the homefront and interfere with adjustment to college. The full treatment appears in "Pediatrics Magazine," published by the American Academy of Pediatrics. . . . **George and Anne Schnitzler** are back from wintering in Florida and can be reached at their home, 10 Short Street, Brookline, Mass. 02146. . . . **Boyd W. Bartlett**, former professor and head of the electrical engineering department at the U. S. Military Academy, has retired to a new home in his native Castine, Maine, with the rank of brigadier general. . . . **Robert W. Haskel** gives his revised home address as 51 Marked Tree Road, Needham, Mass. 02192. . . . **George S. Piroumoff** resides at 800 Park Avenue, New York, N. Y. 10021. . . . **Munnie and Alex Hawes** have returned to their Sea Girt, N. J., home after an extensive Florida vacation. Munnie says he played golf with **Robert E. Waterman**, who makes his retirement home in Delray, Fla. Also in the foursome were Joe McCue, a local real estate tycoon, and Lou Little, the former Columbia coach. . . . Another couple back in their Ridgewood, N. J., home after a long sojourn in Sarasota, Fla., are **Sumner and Betty Hayward**. Sumner visited **Ivan C. Lawrence**, who lives in a permanent trailer home facing the Gulf and close to the beach in Sarasota. Ivan's official address is 3740 Gulf of Mexico Drive on Longboat Key, but mail should be addressed to 2 Twin Shores Blvd., a short street in the trailer park. Sumner also writes, in part: "Betty and I had four good weeks in Florida and left on a warm, sunny day to head north into rainy weather and frosty mornings. It's good to get home. We had dinner and a most pleasant reunion with my former roommate, Hobart A. Fischer and his wife. They were staying in Daytona Beach for the winter; they spend summers at a lake cottage in New Hampshire. Hobart is listed in the Class of 1922 but he is really a '21 man and if his fellow Course II mates needed him, he'd come to our next reunion. **Luke Goff** take note. Hobart retired from the New England Telephone Company two or three years ago. On the way back, we stayed overnight in Wilmington, Del., at the home of Velma Hill (Mrs. Sanford J.). Sanford's mother is still living, aged 92, but her health is poor. Sanford's daughter, Margaret, dropped in with her three charming children, Cathy, Mary and San-

dy. Margaret's husband is Jim Hodges, M.I.T. '51." . . . **Joe Wenick**, chairman of the library board in his home town of Caldwell, N.J., has a new problem—setting up a regional library for six towns, two of which have no libraries, two with small, new libraries and two with well-established facilities.

By this time you, dear reader, know that **John W. Barriger, 3rd**, accepted mandatory retirement from the presidency of the Pittsburgh and Lake Erie Railroad; that four days later he became special consultant to the St. Louis-San Francisco Railroad; that in March, he was elected chairman and chief executive officer of the Missouri-Kansas-Texas Railroad; that in April, he also assumed the duties of president. According to a revealing story in Forbes Magazine for April 1, 1965, John (who is called "one of the railroad industry's grand old men") says: "We need a miracle here at the Katy. But the day of miracles is over, so we'll have to work one ourselves. I think the Katy can be saved. We should see some encouraging results by the end of the year." Munnie Hawes personally delivered the issue with this article; Sumner Hayward and Ray St. Laurent sent it in the mail. John took time from his heavy new load to write the following most appreciated letter: "Thank you for the compliment paid me in reporting at such length in the Technology Review some of the razzle-dazzle arranged to give me a good send off from the P.&L.E., when I got fired for old age on December 31. As I assured my friends at the time, it was a swindle if they thought I would retire. On the first business day of the New Year I became special consultant for the St. Louis-San Francisco Railway. My principal occupation was making some studies for the Santa Fe-Frisco merger project. Recently, however, I was invited to become chairman of the board and chief executive officer of the M-K-T Railroad and accepted this opportunity to return to active railroad service. It is quite a transition to go from the P.&L.E., that had the highest profit ratio of any railroad in the U.S. last year, to the M-K-T, which is tied with the New Haven in respect to having the largest deficit, both in dollar account and in its ratio to gross revenues—about 12 per cent. The Katy is devoid of passenger problems, but otherwise it suffers from all of the misfortunes found on the New Haven and a few more to make up for not having any commuter losses to bear. However, I believe that this railroad can work its way back and I have received an encouraging welcome, as evidenced by the attached clippings from the Parsons Sun. Parsons, Kansas, is one of this railroad's principal operating centers. I journeyed to Boston on March 25 to address the New England Shippers' Advisory Board on 'Great Railroads for a Great Society.' A copy of that paper will follow. It has some reference to the Boston-New York-Washington super-railroads in its closing paragraph." We'll review John's address when it arrives. The Parsons Sun references comprise a most candid interview with John, which is full of his forthright comments, and a later front-page memo from the paper to John

to tell him his down-to-earth views and actions had already boosted Katy morale tremendously and had put employees and citizenry solidly behind him in an effort to help improve the road's status.

Albert L. Edson, retired U.S. Air Force colonel and for 27 years the manager of Boston's Municipal Airport, Bedford Airport and Logan International Airport, where Edson Terminal for general aviation passengers has been named in his honor, has replied to our note with a letter which says, in part: "Daughter Betsy and family have just returned from a year's stay in Peru where her husband, Dick, was on a mission for the Agency for International Development, to which he was loaned by the New York Federal Reserve Bank. Our son, John, spent a year with the Maritime Commission as assistant engineer on one of their luxury liners to the Mediterranean, and another year at the Fore River Works of Bethlehem Steel Company, where he was inspecting engineer on two of the Navy's nuclear powered vessels. When the yard closed, he went to American Machinery and Foundry Company on nuclear furnace problems, but now that they are moving to York Pa., he has gone to Remington-Rand to stay nearer home. I retired several years ago and was appointed by Governor Herter to the unpaid position of board member on the State Airport Management Board, which is charged primarily with sound business management so that the airports under its control shall be self-supporting. Shortly thereafter—six years ago last March—my dear wife suffered a disabling stroke. Because of this, I have given up consulting work which I had started and I doubt that I will be able to attend the 45th anniversary functions. My own health is not too good—old age mostly. With best regards to all." Our good wishes go to the Edsons at 102 Bellevue Street, West Roxbury, Mass. 02132.

You have received **Ray St. Laurent's** class letter, with news of 1921 activities and forthcoming events. We wish to extend to Ray and Helen the sincerest sympathy of all of the Class on the passing of Helen's brother, Corbett, in Nova Scotia. . . . **Arthur Watts Skilling** died on March 20, 1965, at his home, 20 Church Street, Greenwich, Conn., and we join his many friends in the Class of '21 in sending deep expressions of condolence to his family. Born in Lawrence, Mass., October 30, 1900, Art prepared for the Institute at Lawrence High School. At Technology, he was a member of Pi Delta Epsilon, Stylus, the Tech Show ballet, sports editor and managing editor of The Tech. He was graduated with us in Course I. Your secretary had the pleasure and privilege of almost daily association with Art throughout our years at M.I.T. in the operation of The Tech and we speak for the members of the managing board in paying tribute to a staunch friend. We are indebted to Warren D. Sherman, '22, retired regional manager and Arthur's associates in the Socony Mobil Oil Company, New York City, for the following memorial: "This untimely event has been a great shock to Arthur's family and his many friends, world wide,

especially as it was very sudden and totally unexpected. Since our work from 1932 to my retirement in 1958 was closely allied, here is his history in some detail. Arthur was employed at Pittsburgh in 1932 as an appraiser. He soon became district real estate representative, was transferred to Philadelphia in 1934 as division real estate manager and to the New York main office in 1941 as assistant real estate manager. He was named manager of marketing analysis in 1949, manager of market research and analysis in 1953 and head of the company's real estate activities, both here and abroad, in 1960. His advice and counsel were solicited and highly valued by many of his associates. His desire to help others with their problems was sincere and he evidenced remarkable patience in extending assistance. He will be sorely missed." Art is survived by his wife, Mrs. Marion Hendry Skilling; two daughters, Mrs. Lewis C. Ball and Mrs. L. Robert Jeffrey; and eight grandchildren.

Hope to see you at Alumni Day,—both this year and next. Please act promptly if you have not previously planned to attend on next June 14. Remember that next year's observance, June 13, 1966, will be preceded by several days of our 45th Reunion, an event you and your wife shouldn't miss. Beginning this fall, you'll receive detailed program material in the mail. For now, reserve the dates from about June 9 through 12 for our reunion celebration at the Griswold Hotel and Country Club, surrounded by 170 acres of vacationland on Eastern Point in Groton, Conn. Remarkably accessible by all manner of air, land and water transportation, this paradise of rest and activity will be yours to enjoy as you will with your many good friends—class, course and fraternity brothers. Comfort and good food are assured and there is no limit to the resort and recreational facilities available on the grounds. The setting is amidst the most historic area in the eastern U.S. and adjoins modern industrial marvels, such as the atomic submarine construction yard. Join us and don't let this golden opportunity slip by. Your wife will enjoy the vacation and the ladies' program. Then proceed to Alumni Day at Cambridge (transportation will be available) for a look at the transformed campus and updated educational activities of the modern M.I.T. and enjoy another outstanding special program for alumni. Write to Reunion Chairman **Mel Jenney** or to your secretaries at the addresses below for any advance help you may want.—**Carole A. Clarke**, Secretary, 608 Union Lane, Brielle, N. J. 08730; **Edwin T. Steffian**, Assistant Secretary, c/o Edwin T. Steffian and Associates, 376 Boylston Street, Boston, Mass. 02116; **Melvin R. Jenney**, Reunion Chairman, c/o Kenway, Jenney and Hildreth, 24 School Street, Boston, Mass. 02108.

'22

Your traveling secretary, while shoving off for Spain and Greece, ran up the gang plank shouting instructions to your

secretary's secretary to assemble the class notes for June. While he is basking in the sun at Torremolinos, Malaga and Athens, those of us left at Ferguson Electric are working hard to provide his expenses. He has just been elected president of the local United Fund, so he also left us the job of answering questions about the coming \$7 million campaign. However, after this Chamber of Commerce Trade Mission is over he will have to make up for lost time to the point of questioning the advisability of calling his next trip a vacation. . . . **Charles B. Miller, Jr.** is retiring from the vice-presidency of the Duke Power Company, after 39 years of service. During this time he has held a number of managerial posts and was named assistant vice-president in 1960. He will remain as a consultant to the company. . . . **Thomas H. West** has retired after 20 years as president of the world's largest producer of textile looms. Tom had worked through the engineering and all other departments as well as sales during his outstanding career of operating a company grown to 6,000 employees. The company produces automatic looms, bobbins, shuttles, temples, spinning and twister rings and grey iron castings. Draper Corporation is now constructing a \$5 million foundry at its main plant at Hopedale. Tom has two main hobbies, sailing and tennis, but now plans to do plenty of traveling. He is a director of Pepperill Manufacturing Company, Brown and Sharpe Manufacturing Company, and the First National Bank of Boston. He is also vice-president of the Machinery and Allied Products Institute and a director of the Associated Industries of Massachusetts. He hopes to make his summer home in Nonquit on the Cape his headquarters. In offering the congratulations of the Class we hope to hear all about his future plans on Alumni Day, June 14th. . . . Speaking of Alumni Day, our usual activities will be done in the usual attractive way. To those of you who have previously joined us, you will surely want to return. To those who have not made it in the past, you will find a very warm welcome at the Institute and from the members of the Class. Please come!

We just received a card from your secretary dated April 6 from Lisbon. In 24 hours he has made a flight from New York, landed in Lisbon, where he is staying at the Hotel Ritz, had lunch and has taken a long, city bus tour. He reports that while it is noon in good old Buffalo, it is 6 P. M. in Lisbon, where the day has been sunny and the temperature 68 degrees. The card containing his message is beautiful indeed, almost a three dimensional picture, showing the Marquis of Pombal's Square and Eduardo VII Park as seen from the air and the countryside in the diminishing, misty distance. We proudly hang the card on our bulletin board, happy that our wanderer can relay the wide world back to us by way of cards, slides and pictures. As of April 7 another report from your secretary tells us that he is now at Nazare, Portugal, where he helped the fishermen who wear long tailed stocking caps, pull in their nets. True to the fisherman's form how-

ever, the big ones got away and the catch was a few small ones, unworthy of the effort expended to pull them in. So we stay-at-homes have another token from the far away places to put on the bulletin board. . . . Among the changes of address noted are those of **Charles G. Moore**, Tucson, Ariz.; **William F. Herlihy**, Brookline, Mass.; **Thomas H. Gill**, Lakewood, N. J.; **Gordon D. Croskery**, White Plains, N. Y. . . . The sympathy of the Class is extended to the family of **Gordon H. Seabury** of Wellesley. . . . These notes are written in sunny old Buffalo after a snowless, skillless winter and on a sunny April day at 50 degrees—all this while your secretary wings his merry way around Southern Europe, and we are not so bad off in Buffalo either.—**Whitworth Ferguson**, Secretary, 333 Ellicott Street, Buffalo, N. Y.; **Oscar Horowitz**, Assistant Secretary, 33 Island Street, Boston, 19, Mass.

'23

An article in The New York Times, March 29, tells how a wave of kidnaping poses a major threat to stability in Bogota, Colombia. Among the government officials and independent observers it is now regarded as eclipsing Colombia's serious economic and political problems. There is hardly a Colombian family of wealth or even of middle-class means that does not fear that one of its members may be a victim of kidnaping or armed assault. So far there have been about 200 kidnaping attempts. The most prominent case was the seizing of **Harold Eder**, a wealthy California industrialist and former government minister. Mr. Eder was abducted by the Violencios while riding in a remote section of his estate in the department of Cauca. He was found dead of a stomach wound after the bandits had demanded ransom and 3,000 men had been sent out to search for him. Talks with official intelligence sources and independent observers indicate the following consensus: The Communist Party is probably giving political encouragement to gangs such as the one that kidnaped Mr. Eder. There is little evidence that communists are operating with the bands, but there is general agreement that the incidents are highly favorable to any groups seeking the overthrow of the government or the collapse of the social system. Dr. Stratton visited Mr. Eder when he was in Colombia last fall and had been a guest at Mr. Eder's home.

It is interesting to note from the March 10 New Haven Register that one of the most important figures in the Russian defeat of the Nazis was a man who isn't even a Russian. He is **Herman A. Bruson**, who was born in Middletown, Ohio, and now lives on Pleasant Hill Road, Woodbridge, Conn. A quarter century after the Russians began pushing back the enemy which had threatened the life of the U.S.S.R. Dr. Bruson has been revealed as the inventor of an oil additive that enabled Russian tanks to keep going in the bitterly cold winter of near-defeat.

Even most of his colleagues at the Olin Mathieson Chemical Corporation Research center on Munson Street have been surprised by the revelation. They knew he had a lot of patents in his name, but didn't know that U.S. Patent 2,091,627, issued August 31, 1937, was among them. That is the oil additive patent that played a major role in reversing the tide of the war for Russia. Dr. Bruson has been based at Olin's New Haven works for 13 years. His wartime value to Russia came to light recently as Olin officials were reviewing company connected patents. This is the 175th Anniversary year of the U.S. Patent Office. Dr. Bruson, now a vice-president and senior scientist of Olin, was working on polymers of higher alkyl methacrylates during the mid-1930's. He found if he put some of these polymers in ordinary motor oil, the oil would stay about the same thickness or viscosity when it was subjected to extreme heat or extreme cold. In writing up his patent, Dr. Bruson, an artillery reserve officer, mentioned that the treated oil could be useful as a recoil oil for big guns. A Commander Earl of the U.S. Naval Laboratory saw that paragraph and ordered some for evaluation by the military. Dr. Bruson recalls he had to complete the order in his laboratory. A short while later, Russian tanks were becoming immobile because of extreme cold. They asked their allies for aid, and the U.S. army called on Dr. Bruson to prepare more of his special oil. As a result, the Russian tanks could move when the Nazi tanks were immobile, and the rest is history. In fact, every motorist has since been aided by that patented chemical. It is what makes possible one grade of oil for all weather. Dr. Bruson, who has been awarded more than 300 U.S. patents and now has about 12 pending, got into the business of developing new chemicals while he was still in school. In fact, a new chemical was responsible for his doctor's degree and his marriage, in that order. It was work on his doctorate in the Federal Polytechnic Institute in Switzerland that led him to his first patent in polymers. He was studying under Dr. Herman Standinger who later became winner of the Nobel Science award. Dr. Bruson took his thesis work back to the United States and was issued a patent on it in 1929. He sold that patent for \$5,000 which he immediately split with Dr. Standinger. He used his own half to finance his wedding. Thus began a long career in developing new chemicals. Thirty-four of Dr. Bruson's patents are listed in the Chemistry of Acrylonitrile, published by American Cyanamid Company. During a period when Dr. Bruson was working on this chemical, used chiefly in synthetic fibers such as acrylan and orlon, he was finding new uses faster than he could write the patents. Most of those patents ran out before the new fibers were developed. Another of Dr. Bruson's developments resulted in the multi-million dollar sale to Mobil Chemical Company of patents covering the process of making the principal chemical used in the manufacture of polyester films and fibers. Dr. Bruson hasn't let up

since his school days. His latest patent was filed last December and he is now working on specialty chemicals. During his many years of leadership in the field of chemical research, he has been lecturer in organic chemistry at Pennsylvania State University and has published more than 30 scientific articles. He is a member of the American Chemical Society, American Institute of Chemists and the Society of Chemical Industry of Great Britain.

In the April, 1965, issue of The Technology Review under the news of Edmund Turner Allen the name following Otto Carl Koppen, '24, should have read Harry Charles Karcher. . . . When in Columbus, Ohio, on March 11 your secretary talked with Bertrand Landry who retired March 1, 1964, from Battelle Memorial Institute, and Henry A. Pray who has also retired after 30 years with Battelle. Both are well and enjoying their retirement. Bert has a cottage on Boone Pond, in Stow, Mass., which he enjoys. He also reports that he enjoys our New Hampshire beaches (Wallis Sands) and the Camden, Maine area.

Notice has been received of the deaths of the following but no details are available: **Lisle J. Maxson**, Box 31, 1773 No. Roosevelt Avenue, Altadena, Calif., on December 20, 1963; **Tsung B. Tsang**, House #6, Lane 14, Ling Yi Street, Taipei, Taiwan, on November 15, 1959; **Clarke C. Miller**, 2143 Stanton Avenue, Whiting, Ind., on October 28, 1962. . . . The following changes of address have been reported: **Stearns H. Whitney**, 46 Albin Road, Concord, N.H. 03301; **Norman L. Weiss**, P.O. Box 5795, Tucson, Ariz. 85703; **Angelos A. Spiliotis**, Shore Road, Magnolia, Mass. 01930; **John W. Sands**, Box 1166, 1921 S.E. 41st Street, Cape Coral, Fla., 33904; **R. Winston Rouse**, 403 Palm Way, Tavares, Fla. 32778; **Hugh Perrin**, 2133 Timlaw Road, Washington, D.C. 20007; **Albert A. Gordon**, 3rd, 452 West Street, Paxton, Mass. 01612.—**Forrest F. Lange**, Secretary, 1196 Woodbury Avenue, Portsmouth, N.H. 0381; **Bertrand A. McKittrick**, Assistant Secretary, 78 Fletcher Street, Lowell, Mass. 01852.

'24

In March Fred Ashworth completed his first year of retirement, and it certainly sounds as though he is having fun. Last December the Ashworths were in Bermuda, then Miami and the Keys in February, and Washington during the cherry blossom season in April. "We are in excellent health," says Fred, "and now live to enjoy life and beat the insurance Companies." . . . **Edward J. Hanley**, Chairman and President of Allegheny Ludlum Steel Corporation, was honored by the Engineer's Society of Western Pennsylvania as the recipient of its 1965 William Metcalf award. It is symbolic of outstanding engineering achievement. He was the third man so honored in the society's 81-year history. "As chief executive officer, he has directed the expansion

and modernization of Allegheny Ludlum, keeping it among the leaders in the stainless and special steel industry, and establishing its reputation as a research-minded steel company seeking new alloys and improved processes." . . . At a directors' meeting in March, **Charles Allen Thomas** stepped down from the post of Monsanto's chairman "in keeping with a long-standing company policy requiring such action upon reaching age 65." Mr. Thomas continues as director and chairman of the technical committee, and was also elected chairman of the finance committee. . . . Our president, **Paul Cardinal**, was re-elected treasurer and honorary member of the Board of Governors by the National Vitamin Foundation recently.

We've given you a running account of the **Lehrers'** far flung touring. One recent spring evening the **Frank Shaws**, **Russ Ambachs**, and the **Kanes** shared some of this traveling with them via Kodachrome slides. Ray is an excellent photographer and chooses his subjects well. Some of the African wildlife pictures were nothing less than amazing. Having seen most parts of the world we asked Ray where he would be going next. "Back to Africa," was the answer. . . . The end of the year was tough on our class, with three deaths reported. **Charles A. Frank** died in November. Charlie graduated as a mining engineer, but he never followed that profession. After Harvard Business School he went with Bankers Trust in New York as a statistician. His entire business life was spent there, except for time out during the war when he was a lieutenant commander in the Navy. At the time of his death he was an assistant vice president. . . . **Samuel L. Graham**, a Course XV graduate, spent his life in municipal and federal service. He had been an engineer in Los Angeles and Sierra Madre, a civil engineer with the U.S. Engineers in Honolulu, and until his retirement in 1959, with the Navy. Sam had retired to Louisiana where he was born. He had been active for years in the Scottish Rite and Shrine. He died last December. . . . Also in December, **Douglas E. McWilliams** died in Shamokin, Pa., his birthplace. After Princeton, Doug came to M.I.T. and graduated with us in civil engineering. Then he returned home and joined the Roaring Creek Water Company in Shamokin. He became president in 1960. . . . That's it for now. June 14 is just around the corner. That's Alumni Day at M.I.T., a wonderful chance to see the startling changes that have taken place recently, and to have a minor reunion with some of your classmates. Hope to see many of you there.—**Henry B. Kane**, Secretary, M.I.T., Room E19-439, Cambridge, Mass. 02139.

'25

The first thing which must be done is to correct an error which appeared in the '25 column of the April issue of The Review. In that column, we credited Garvin A. "Chink" Drew with being president of Drew Investment Associates and

publisher and authority in the investment field. The name should have read Garfield A. Drew. "Chink," as most of you know and as your secretary well knows, is President of A. Schrader's Son, Inc., in Brooklyn, N. Y. . . . Our class seems to be beset with sickness during the last few weeks. **Mac Levine** was hospitalized at the Phillips House of Massachusetts General Hospital where he underwent an operation. He is now home and is improving. . . . **Dave Goldman** was the victim of a slight heart attack a few weeks ago; and as of the middle of April, he is still at the Beth Israel Hospital, but the expectations are that he will be at home shortly. . . . **Myron Doucette** who had planned to be with us at the 40th Reunion has been advised by his doctor to have a cataract removed from his left eye, and will shortly be going into the hospital. Since he will be convalescing during June, he will not be able to make the reunion. . . . A nice letter has been received from **George MacDuff** who is the managing director in the Caribbean Cement Company, Ltd., of Kingston, Jamaica. It had been his hope that he could make the reunion, but his business responsibilities will not permit it.

Two address changes indicate a major move on the part of two of our classmates. **Clifford Abrahamson**, who has been living in Springfield, Pa., is now located in East Falmouth, Mass.; and **Theodore M. Kuss**, who has been in New York City, sent his new address which is Belmont, Calif. . . . On the chance that these notes will reach you prior to the reunion time, may I remind you that we welcome each and every one of you on short notice and hope that you can join us for what appears to be our largest reunion gathering. May I remind you further that it is the hope of Mac Levine, Sam Spiker and Chink Drew that we may have 100 per cent participation in giving to the 40th Reunion Gift. . . . It is with sorrow that we have to announce the death of **Edward O. McCarthy** in Fort Lauderdale, Fla. on March 16, 1965.—**F. L. Foster**, Secretary, Room E19-702, M.I.T., Cambridge, Mass. 02139.

'26

We are getting out to Pigeon Cove once again, but so far only on Sundays. We stay at the little guest house that we have now christened the "Fo'castle." There isn't time to write class notes out there though because activity is starting on the new Class of '26 headquarters. The batter boards are partly up and the various artisans are coming around one after another with their estimates. One of the most fascinating things to us about Pigeon Cove is the sea gull colony. We have always enjoyed feeding the gulls with our table scraps spread along the sea wall. As a matter of fact we think we will omit a disposal in the new house—the gulls do such a good job and we enjoy them so much. During the winter

when we were unable to get to Pigeon Cove on weekends, it was my good fortune to acquire a most fascinating book, "Argen the Gull" by Franklin Russell. It's not a sit down and read cover to cover book. I read it chapter at a time upon retiring. If you admire the flight of the gull and his ability to scavenge, his knowledge of the sea and his endurance, you will like this book. Not a moment in the long and violent life of Argen, the herring gull, was placid. Even as a nestling he had to survive crises and alarms. Even as an adult, graceful and guileful, confident and strong, he was never far from wariness and fear. Having boned up on the life of a gull during these winter months it is going to be more exciting than ever to have our gulls gliding in for their scraps of food while we are at Pigeon Cove this summer. It is strange that I should get off on this track because in the current mail there is a letter from our noted ornithologist classmate, **Dick Pough**. Dick has always been engaged in conservation activities and has written me to tell of his newest activity in this field. "Your pleadings for class notes contributions has caused me to write you about one of my more recent conservation activities, the Open Space Action Committee of the New York metropolitan region of which I am chairman. It has been my experience that many landowners have a strong enough attachment for their land to not want to think of it some day being butchered by a developer. With this thought in mind the committee is setting out to obtain the name and address of every owner of 20 acres or more of undeveloped land in the 17 counties around New York City. The inventory of Westchester County—our first—is almost complete. We are now preparing a booklet under the title 'Stewardship' that our interviewer will use in his interview with a landowner and leave with him. 'Stewardship' will consist of case histories on landowners who have done generous and imaginative things with their land. These cases range from straight philanthropy to such things as the use of New York State's Easement Law which permits real estate and inheritance taxes to be drastically reduced if the land is legally restricted to non-development uses. In my opinion it is a program that ought to be undertaken around every large city as unless we do the suburbs are going to be grossly deficient in open space and any remnants of the original fabric of nature. Sincerely, Dick." Dick's activity is the sort of thing that I am sure many of us are beginning to give thought to—but Dick has been doing it all his life.

Before I run out of space talking about sea gulls and conservation, let's try to work in a little news. **Don Cunningham** recently received the following letter from **Bill Lowell**. "Dear Don:—Re: M.I.T. 40th Reunion Committee Meeting. Much as I would like to be with you on Thursday, I cannot, because I will be in Europe attending some international standardization meetings plus two weeks' vacation in Spain and Portugal. Please keep me posted as committee activity continues as I hope to be able to

work with you in some way. Sincerely, Bill." . . . **Malcolm MacNeil** phoned the other day to obtain the address of a DuPont man he had met recently in the Virgin Islands. Malcolm stayed at the Caribbean Beach Hotel in St. Thomas and upon checking out spotted an M.I.T. ring on the manager's finger. He turned out to be a civil engineer from the Class of '46—**William C. Dowling**. There's lots more that will have to await the space of next issue including a long write-up in Time about classmate, **S. L. Kirloskar** of Bombay, a letter from **Jay Goldberg**, another letter from **Gordon Spear**, a letter from **Ben Richardson**, and another letter from **Argo Landau**. Your secretary's pleas for communications are being heard! Do you feel guilty for not writing? If so, you know what to do. Hope to see many of you on Alumni Day—so until next month, Cheerio.—**George W. Smith**, E. I. duPont de Nemours and Company, Inc., 140 Federal Street, Boston, Mass.

'27

Your Class Secretary, **Joe Harris**, wrote me from Taormina, Sicily and he and Ann seem to be having a wonderful trip. I quote in part: "Since Algeciras we have had a visit to the south coast of Portugal, the Algarus, which is one of the few unspoiled tourist spots. The coast is mainly high cliffs with broad, beautiful sand beaches. There are half a dozen good hotels in the 100 mile stretch. Another half dozen are being built but that really won't hurt it. The Portuguese are terrifically friendly and costs are low. We thought we were going to live on hake, squid, and fennel and sleep on square pillows indefinitely, but back in Spain to see Seville, Granada and Cordoba, we found we were inexorably drawn from the traveller to the tourist status. Now we are in Taormina, which for sheer dramatic beauty is absolutely outstanding. The village is 1,000 feet up a sheer cliff from a smoking Mt. Etna as the backdrop. Add to that brilliant sunshine, 80 degree temperature, and beautiful gardens, plus substantial archaeological evidence of all the civilizations that have been here during the past 2,500 years." Joe went on to say he would be back in another month and I will be happy to have him return to his class secretary's job—believe me.

No news of other classmates at all this month but I have written to a few classmates, hoping to draw out a line or two from them. Probably the biggest single item I can plug is the Class of '27's 40 Year Gift and Reunion, and this, I assure you, will keep repeating in your mail for the next two and a half years. Everybody knows our objective as Alumni Fund mailings have kept us well informed. Good progress can be reported to date with many generous gifts from classmates all over the country, but still the number giving is only a small percentage of our total 1927 class list. We all can give something, I'm sure.—**Glenn Jack-**

'28

A note from Fred Lehmann, Secretary of our Alumni Association, informs us that four members of our class have been elected regional chairmen of the 1965 Alumni Fund: James S. Morse for San Mateo, Calif.; Chester M. Day, Boston, Mass.; Newton S. Foster, Nutley, N.J.; and J. A. St. Louis of Cleveland Heights, Ohio. When you fellows have a minute, why don't you write us a note and tell us what you are doing for a living these days and how are your respective families? . . . An eight-page article clipped from the March, 1965 issue of *Physics Today* was authored by **Max Kessler** of the M.I.T. Libraries. An introductory editorial note states: "The model of a technical information system described here by Dr. Kessler involves a working literature taken from twenty-one journals in the field of physics. The system, designed and constructed at the Massachusetts Institute of Technology as a prototype operating in a realistic test environment, uses remote consoles having access to a time-sharing computer facility. Programs have been developed for a large variety of search and processing techniques in real time as well as for delayed output. The work is supported by the National Science Foundation and in part by Project MAC, the experimental computer facility at M.I.T. which is sponsored by the Advanced Research Projects Agency."

Probably the best way to present this latest news release concerning **Al Gracia** is to publish it in its entirety to illustrate a typical public service career by a member of our class. Unfortunately many of us don't have the talent and others are too lazy; and others who have the time for this work probably say it is too late—"They have to take things easier." We are glad to see that Al is still in there punching away, as the article says: "Albert J. Gracia, Vice-president for research, The Goodyear Tire and Rubber Company, Akron, has been cited for his meritorious service with the United Community Council of Summit County (Ohio). The award was made at the closing session of the Citizens' Conference on Community Planning, sponsored by United Community Funds and Councils of America. In making the award William Block, publisher of the Pittsburgh (Pa.) *Post Gazette* and chairman of the awards committee, said: 'During his council presidency, from 1959 to 1961, a Planning and Priorities Committee was established. Through Mr. Gracia's leadership the system of priorities devised by the committee was accepted by the council and the agencies involved and was integrated into the planning and fund raising machinery of the community. Because of the committee's action, Akron and Summit County now have an efficient, workable means for allocating funds. Mr. Gracia's skill in leadership is obvious from the favorable consensus he

obtained for the establishment of priorities. He convinced volunteer and professional leaders in health and welfare of the need and marshaled their influence and backing for effective functioning of priorities. He was able to convince the United Fund and the council leaders of the validity of the new money concept needed to make priorities work and convince special interest groups that new projects would be judged objectively. The Planning and Priorities Committee, through its work, has brought new and higher status to health and welfare planning and to the role of voluntary agencies. Community confidence and interest has been heightened and a forward-looking emphasis has been added to agency service.' After serving in various positions, Gracia was elected president of the U.C.C. in 1959 and chairman of the Planning and Priorities Committee in 1961, the position he still holds."

A small class reunion was held early in April at the Charles Playhouse in Boston, when **Jack Chamberlain** and his charming wife unexpectedly sat in the seats directly in front of your secretary and his spouse, who watched *The Plough and the Stars* by Sean O'Casey. Between-the-acts conversation in the lobby brought forth no world-shaking news, excepting Jack did say he enjoyed reading class notes. Most members of our class "enjoy reading class notes" but we simply won't have any unless you, dear readers, send them in.—**Hermon S. Swartz**, Construc-tion Publishing Company, Inc., 27 Muz-zey Street, Lexington, Mass. 02173.

'29

It doesn't seem possible it is close to a year since our 35th Reunion and are now looking forward to Alumni Day again in June. We plan to attend and, of course, hope we have a good representation of the Class of '29. . . . We have a further report on **Ted Malstrom**. As of March, we hear that he is making good progress and Ted has requested that we insert a note of thanks from him for all the cards and notes sent to him while he was in the hospital—also, he sends thanks to the Reunion Committee for the flowers which were sent on his arrival home from the hospital. . . . A very nice note from **Wally Gale** describes some of his adventures on a 49-day trip on a freighter in the Far East as follows: "It is a lazy and inexpensive way to get to 'out-of-the-way' places. We took a herd of pregnant heifers to Okinawa, skirted through the Formosa Strait, in sight of Red China, picked up molasses at Iloilo and pineapples at Bugo, both in the Philippines, and had days ashore in Hong Kong, Kobe, and Yokohama." . . . This was followed by another note from Wally giving us an up-to-date report on our classmate from Montana, **Art Marlow**. Art is currently with Mangla, Inc., Engineers, in West Pakistan and has played a big part in the construction of large dams and turnpikes since graduation. We quote from Art's letter to Wally: "We have not

tried the ocean bit yet as this job has been a bit pressing. Anna Lou, however, can now boast two and a half times around the world by 707. The first time she went home I went as far as London with her and then flew straight back. We 'did' Beirut, Istanbul, Amsterdam and London. Then last fall we both made the circle. That time we made Ankara, Istanbul, Vienna and on the return we hit Hong Kong, Bangkok and Delhi. We still want to see Jaipur, Agra and Srinagar (Kashmir) and hope to manage this in the next couple of months, Inshallah. We hope to be back sometime this summer and we have been flying from London to Chicago direct, but I don't think that a stop in New England would be too hard to manage, so brace yourself as we may just stop and put our bare feet on your coffee table en route. My best to anyone of the old cronies that you happen to see."

Now, for a few biographical sketches to report on what our classmates from New Jersey are doing. **Leonard Stievater, Jr.**, of Scotch Plains is assistant vice-president and technical director of McK & R. . . . **Frank Pierson** is chief engineer of Falco Products Company, Philadelphia, and resides in Cherry Hill, having devoted most of his career to manufacturing and management engineering. . . . **Cliff Kittredge** writes from Princeton University where we assume he is holding that tiger. . . . **Wayne Koppes** is self-employed in Basking Ridge where he has been an independent architectural consultant since 1955. . . . Kinnelon is the home of **John Macy** who is deputy comptroller, First National City Bank in New York. . . . **E. H. Gilman** reports from Mountainside as chemical engineer at Union Carbide, and he says he is preparing for retirement with a cottage in Maine and a place in Florida. . . . the field of electronic musical instruments has intrigued **Frederic Merrill** since graduation and he is presently an instructor at RCA Institutes, Inc., Chatham, N.J. . . . **Kendrick Bellows** of Plainfield is assistant vice-president of Consolidated Edison Company of New York. He adds the following note to his resume: "Like many another holder of engineering degrees, I started in professional practice, but have moved steadily away from professional toward administrative work—until I'm now an engineer in name only. No regrets!" . . . **Robert and Hazel Cowan** live in Bernardsville where Bob is chairman of the board of the National Newark and Essex Bank. Bob studied engineering at M.I.T. for two years and then switched to finance, in which field he certainly has a solid background. He is active in many community affairs and serves as director of many financial institutions. . . . **Arthur Marsh** lives in Gillette and is a self-employed manufacturers sales representative in the line of finishes, sealants, adhesives and similar compounds, specializing in the aircraft and electronics fields. Prior to starting his own business, Art was employed by Carrier Corporation and was instrumental in the development of the first railway air conditioned car using steam jet refrigeration and was active in setting up world-wide applications of railway air

conditioning equipment. Sorry to have missed you on your last trip to Nashua, Art.

From Montclair, **Milton Clapp** wrote that he would be available as a management consultant after his retirement, November 1, 1964, as vice-president of Esso Pappas Industrial Company of Athens, Greece. . . . Also from Montclair we received a most complete response from **Warren Walker** who is president of Graphite Metallizing Corporation in Yonkers, N.Y. Warren's resume includes a very impressive list of professional activities and interests, and his hobbies embrace gardening, swimming, skating, skiing and walking; with an avid interest in people, students, accounting, economics and taxes and new scientific principles and ideas. On people, he expresses the following philosophy: "I feel it is important that each citizen make a contribution to his environment,—to put in and not try to merely take out. It is essential that each one stand on his own economic feet. Upon achieving individual independence, it is important to become interested in fields beyond self—in individuals, organizations, and in the public sector." And, since the deadline for this month's news coincides with another well-known deadline, let's hear what **Philosopher Warren** expresses on a timely subject. "I have long advocated the elimination of graduated Federal income taxes, the double taxation of dividends, high excise taxes, uncertainty in depreciation schedules, state taxation of interstate commerce, and a 25 per cent limit on income tax rates both individual and corporate in peacetime." . . . With summer vacation time just around the corner, perhaps you would like to let us know your plans. Way back in November, **Fish Hills**, our former secretary, asked that we include his summer address which is Drake's Island in Maine. Best regards.—**John P. Rich**, Secretary, P.O. Box 503, Nashua, N.H.

'30

By the time these notes appear the 35th Reunion at Oyster Harbors on the weekend of June 11-13 will be close upon us. If you have not already made a reservation and find at this late date that you can make it, I suggest a telegram or telephone call to **Ed Kingsley**, 14 Upway Road, Wellesley Hills. . . . **Dick Wilson** reports that his son Stewart (who attended our 30th Reunion just after graduating from M.I.T.) was married to Renate Von Bulow, daughter of Captain Otto and Helga Von Bulow, in Bremerhaven, Germany in May, 1964. Dick, Carolyn and daughter Suzanne (Radcliffe '67) went to Bremerhaven for the wedding. Stewart and Renate met while both were attending summer school at the University of Grenoble. They are now living in Cambridge where Stewart works for Polaroid Corporation. The Wilsons are skiing enthusiasts and take winter vacations at skiing meccas in Austria, Switzerland and Colorado. As many

of you know, Dick is manager of film manufacture at Eastman Kodak Company in Rochester. . . . This month we have a report from **Bill Alling**, one of the two members of our class who has moved from engineering to the ministry. After receiving his M.S. from M.I.T., Bill worked for Industrial Rayon for 17 years. In 1947 he decided that "the Lord's work was most interesting" and went to Faith Theological Seminary in Wilmington, Del., from which he graduated in 1950. He was ordained by the Bible Presbyterian Church, served in a pastorate at Canon City, Colo., for several years and then moved to Walker, Iowa, where he is now principal of the Cono Christian School and teaches mathematics, science and Bible. . . . **Lawrence Anderson** is head of the department of architecture at M.I.T. and senior partner of the architectural firm of Anderson, Beckwith and Haible in Boston. His older daughter Judith went to Swarthmore and Yale and is now working as an architectural assistant. Daughter Karen is a graduate student at State University of Iowa and son Lawrence is a junior at Cal Tech.

Henrietta Johnson Dane has been elected a trustee of Pine Manor Junior College. She is also a member of the Board of Governors of the Boston Skating Club and a director of the N.E. Center for Blind Children. Her husband Ernest Dane, Jr., is deputy associate director of the Instrumentation Laboratory at M.I.T. . . . The recently published list of Alumni Fund Regional Chairmen reveals that three members of our class have accepted the responsibility for area solicitation in different parts of the country: **Palmer Boggs** in Oklahoma City, **Warren Martell** in Long Beach, Calif. and **Ralph Scott** in Lakewood, Ohio. . . . Reports have come in recently concerning the deaths of two more of our classmates, **Bob Baldwin** and **Carl Franz**. According to my records, which are now several years old, Bob was art director at Columbia Pictures and lived in Altadena, Calif. He had a son Peter and daughter Susan who would now be about 28 and 16 respectively. He died January 16, of cancer after a seven-month illness. . . . The news of Carl's death came via a letter from **Howie Gardner** who had noted an item in Chemical Engineering Progress. It appears that Carl was a passenger on the Eastern Airlines plane that crashed at Jones Beach, N. Y. on February 8. At the time of his death he was research consultant for General Chemical Division of Allied Chemical Corporation. . . . Changes of address: **Lawrence Gonzalez**, American Embassy, A.P.O., New York, N. Y. 09159; **Oliver Green**, 11703 Farmland Drive, Rockville, Md.; **Joseph Turinam**, 6 Crystal Street, Mt. Isa, Queensland, Australia.—**Gordon K. Lister**, Secretary, 530 Fifth Avenue, New York 36, N. Y.; Assistant Secretaries: **Charles Abbott**, 26 Richard Road, Lexington 73, Mass.; **Louise Hall**, Box 6636, College Station, Durham, N. C.; **Ralph Peters**, 16 Whitestone Lane, Rochester 18, N. Y.

'31

Class President **Howard Richardson** reports the good news that **Ken Germeshausen**, president of Edgerton, Germeshausen and Grier, Inc., has agreed to be general chairman of our 35th Reunion committee. Reservations have been made, through the help of **Ralph Davis**, at the Wianno Club on Cape Cod for Friday, June 10 to Monday, June 13, 1966—so be sure to reserve that weekend on your 1966 schedule. As you will recall, our successful 30th Reunion was held at the Wianno Club and everyone felt it was an ideal spot. . . . A Cutler-Hammer news release tells that **John N. Dyer** is now executive vice-president of Airborne Instruments Laboratory Division. John will head up all research and development for the division as well as direct advanced planning. . . . **Truman Hedding** is now a vice admiral. . . . **John Kenneth Jamieson** has been elected president of Standard Oil Company, New Jersey. He is the first Canadian to become president of Standard Oil. . . . A recent clipping tells that **Ben Mesick** has established an enviable record as a career officer in the U.S. Army and as a civilian consultant for Arthur D. Little. . . . On July 1, **Charles Norris** will become Dean of the College of Engineering at the University of Washington. Professor Norris was on the faculty at Tech for 30 years before going to the University of Washington in 1962. . . . **John L. Olsen** spoke on "Clerical Work Measurement" for the Portland, Maine chapter of the Administrative Management Society.

It was terrible shock to hear from John Longley, '38, and learn that **Charles Rankin** passed away on April 8. Charlie had an open-heart operation and died as the anesthetic was being administered. He was head physicist for the last 25 years at the State Police Laboratory in Albany, N.Y. All his friends will miss him. . . . The Alumni Office also reports that Colonel **John P. Richter** and **Fred C. Yohn, Jr.** have died. Fred passed away on March 11, 1964. The date of Colonel Richter's death is not known. . . . Although I realize that all of you are busy, how about dropping me a line occasionally to bring me up to date with your activities? Don't be too surprised if you receive a ham radio message asking for news—the call is WA1ASM. . . . The following changes of address have been reported: **Edward F. Abbott**, 469 Myers Avenue, Harrisonburg, Va.; **Joseph M. Buswell**, 3808-57th Street S.W., Seattle, Wash. 98116; **Alfonso E. Calero**, Apartado-Aeroro 1355, Cali, Colombia, S.A.; **John W. Carleton**, Longnook Road, P.O. Box 342, Truro, Mass. 02666; **Miss Margaret E. Carroll**, P.O. Box 444, Brewster, Mass.; **Emilio C. Collado**, Apt. 4-B, 435 East 52nd Street, New York, N.Y. 10022; **Carl Connable**, 5201 Jefferson Avenue, Midland, Mich. 48642; **J. Franklin Cook**, Kidder, Peabody and Company, 20 Exchange Place, New York, 10005; **Donald L. Girard**, Hotel Tuscany, 1244 North Dearborn Street, Chicago, Ill. 60610;

Winthrop D. Hodges, P.O. Box 262, Nantucket, Mass.; William Metcalf, 530 East 88th Street, New York, N.Y. 10028. Louis S. Morse, Jr., 674 Redgate Road, Bloomfield Hills, Mich. 48013; Harry A. Murray, California Texas Oil Corporation, 380 Madison Avenue, New York, N.Y. 10017; John E. O'Neill, Apt. 5N, 800 Victory Boulevard, Staten Island, N.Y.; Albert P. Pierce, Jr., Delano Road, Marion, Mass. 02738; Colonel Charles Robbins, 2400 Hanson Road, Edgewood, Md. 21040; John R. Vincent, 1801 Bellview Avenue, New Port Richey, Fla.—Edwin S. Worden, Secretary, 35 Minute Man Hill, Westport, Conn.; Gordon A. Speedie, Assistant Secretary, 90 Falmouth Road, Arlington 74, Mass.

33

Well, folks, we are off again and high time. The press is voluminous, this time, but some of it is repetition and you will be spared that. . . . The Alumni Association announces that one of our boys has been appointed to the Alumni Council. Leburton D. Webster replaces Harry Duane, '57, as club representative. . . . There has been a shakeup at Accurate Brass Company of Bristol, Conn., it appears, and Loren H. Nauss, Jr., became one of the new vice-presidents. Congratulations Loren. You just can't keep a good man down. Any comments, Chuck? . . . Stew Hungerford has been made the western representative of DuPont of Canada. He lives in Vancouver. I do believe I mentioned this before, however I would prefer to mention these items twice rather than forget even one. Let's have the new home address Stew. . . . From the Telegram, Toronto, we have a nice write up on the Hamilton Falls (Labrador) project, complete with a map of the area. Separately, I have from Bob Winters his speech on the same subject before the Canadian Geographical Society in Ottawa. The clip says that this power project is four times the size of the St. Lawrence Seaway Power Development. Thanks for the copy of the speech Bob; I enjoy them all.

Francis T. Hall, formerly in teaching at Penn State, has been appointed assistant dean at Boston University's College of Engineering. Francis is an electrical, I notice. His wide background seems to stand him in good stead for the new job. Since taking his B.S. and M.S. at M.I.T. he has been with James Laughlin Company and General Electric as radio engineer and was test equipment engineer for Western Electric before his appointment to the faculty of Penn State. Great work, Francis. Let's hear from you now that you have a secretary. . . . Ed Atkinson is forging to the front at Arthur D. Little and compiling a bibliography on anti-radiation drugs. Ed's publication is the ninth of a series published by A.D.L. and is a part of a continuing effort. Just to give an idea this bibliography contains 95 general articles and a listing of 73 more, all relating to specific drugs.

A few personals: with the address changes comes one about Marshall P.

Wilder, formerly of Stamford, Conn., now moved to Portola Valley, Calif. Unless Marshall's strange impulse was to avoid paying rent, he must have had a plausible reason for such a long hop. May we have a few particulars? If you wish, Marshall, I can send you a few phone numbers and addresses in your area. . . . I have a fine letter from William, (Bill) Rand, who had some space last year regarding the Kern Land Company, but, this time he is full of news and nostalgia. He spends quite a bit of time in Bakersfield (one may jump either way from there), and with the Del Webb Corporation in Santa Monica, in an urban redevelopment project. He is a grandfather, has a daughter, Lindsay, named for her uncle, our own Len Lindsay. She has a son, David. Bill's son, Pete, is a graduate of the University of the Pacific, and is with Best Foods, in the Carmel-Monterey area, one which is hard to take. Daughter Lindsay has a daughter Hilary, too. I looked up Len Lindsay in Goodridge and found that he is practically a neighbor, only 8 or 900 miles away in Hendersonville, where I have many, many distant cousins. How about it, Len? Let's have your story. Bill headed the Second Century Fund drive in San Mateo, and environs, and got second prize for Fund groups west of the Mississippi, bowing only to Houston. The Rands took a Caribbean cruise last winter, and Bill is sneaking away, stag, for a rubber raft cruise in Cataract Canyon, Colorado River, this coming season. He says that he hopes to make the 40th, if and when. Bill, if Goodridge has his way, there will be a 35th, somewhere near the U. S. population center, if it seems wise, or in New England, if not. Goodridge wants the 35th, so I expect that there will be one. . . . Somewhere along the line, I picked up the idea that Dravaux (Beau) Bender had become incapacitated. I then wrote him, and found that he had had some very serious trouble. Beau has been quite a skier in the past, as a lot of bachelors are, and had a very serious accident on Nose Dive Trail, at Stowe, Vt., sustaining an injury which soon resulted in almost total paralysis of his left side. To quote Beau loosely, he spent a lot of time in three different hospitals, and, then three years of complete inactivity. Fortunately, Beau has done some recovering and is employed in the Massachusetts Department of Commerce, and gets around a little using a cane. Beau writes a very cheerful note, and seems quite happy to be able to do what he is doing. Beau is an architect; at least he is listed as under Course IV, but has spent most of his time since 1933 in city and municipal planning, and has received quite a bit of recognition from his peers. Beau lives at 8 Craigie Street, Cambridge, and I know that he would appreciate having some of his classmates drop in to see him. Beau you are what we sometimes call a stout fella.

A note from George Henning reminds me that he, too, attended the M. I. T. Alumni Center affair on Oceanography, but, George had a guest with him, and could not join us for dinner. Georgie

looks like about 30, and is as svelte as a greyhound. That's great, George. A lot of us, like me, could well try the cure. . . . As an insert, and from the press, George Vila, President of U. S. Rubber, has his picture on the front page of "M. I. T. Make News in 1964," an Alumni Association publication. Most of the content is taken from class notes. However, George's little story did not come from that source, or, perhaps it should have and didn't. The picture shows George in a test automobile, with his son's crash driving helmet on as he, "tests a tire's anti-skid performance on a polished cement surface, made ice-slick by spray." This appeared in Fortune, and I missed it. Sorry, George, but better late than not at all. This picture seems to have been taken in Laredo. By the way, George does have a son, in fact two, age 20 and 18. If George worked for my old outfit, Warner and Swasey, he would have a test driver doing this stuff. I recall turning in an expense account in 1935, involving a rather long ride in a DC 3, and having the president invite me to avoid planes as much as possible as they were unsafe, and he could not afford losing a valuable man by plane accident. After I asked for the indicated raise, he changed his mind and said that probably they were somewhat safe but not wholly so, and there will be no more raises this year (October) (at the time). I would like to hear from George whether or not the picture was real or trick.

A letter here from Horace MacKechie, Value Engineering Services Office, Department of Defense. He is engaged in saving our tax money (for a change). In a previous issue, I mentioned how they went about saving enough to pay their own salaries and office rent, etc. Horace now sends me a one-half pound package of just how; and how! He explains that, if one clam is saved on each of a million (count) lot, the savings is \$1,000,000. Now, there is a piece of rare arithmetic. Thanks, Horace. I now am in a position to understand. Anybody who wishes details, just write Horace, address sent upon request. . . . You know, fellas and gals, I like nicknames, and had trouble with Horace until I remembered Uncle Horace Ford, Bursar, way back when, and we had a few names for him, such as Horatio, and Uncle Horrors, and others, depending on the time of year; make no mistake, we never tried to be funny about someone we didn't like, for sure.

As a separate volume, Cal Mohr, our eminent and hard working vice-president from the Chicago area, has been to Houston, (chemical engineers or something), and does he bring home the bacon? I am not sure that Cal did actually see anybody, the way the letter reads, unless it could have been Duke Selig (Texas vice-president). But from Bob Dillon, by phone, I take it we have a long story. The way I get it, the Chamber of Commerce takes lessons from him before doing their stuff. Bob is assistant plant manager of Union Carbide, and has charge of chemical engineering, shipping and the office. Union Carbide makes 63 kinds of species of refined chemicals, such as resins, ethylene products, and refined

gasses; elements and compounds. And, from Bob we get the following thru Cal.: **Winfield Partridge** is head of the Olifins Group of Union Carbide, at Texas City, in the development department. Don't write me to see what olifins is, write Bob. . . . Duke Selig is not only with Buffalo Electric Company, he is Buffalo Electric, which sells industrial electrical supplies to the trade in an area covering a 300 mile radius from Houston. Just square that, and multiply by 3.1416, and you get the area he covers. If I remember my goose and duck hunting below Bay City correctly, a lot of Duke's territory is under water. Oyster and clam farmers tell me that the real estate taxes on underwater land are less than the dry spots because they deduct the fire department and school parts of the budget.

Duke, incidentally, is chairman of the regional section of the M.I.T. Educational Council, which interviews prospective students from the area. There is not much publicized glory in this work. But, it is an important part of the whole operation, and is relatively thankless. . . . **Bob Smith** (Rochester, N. Y.) is working in the research field at Pfaudler, and is currently developing new uses for nucerite, an abrasion resistant glass product. Bob, it seems, makes a lot of trips to the Carolinas, although I have not heard from him, or if he ever sees **Beau Whitton** (Charlotte). . . . Also, from Rochester comes word, third hand, that **Dave Babcock** is in the optical division of Kodak, with supervision of production of projectors made by this part of Kodak. We all should be aware of the fact that the generosity of the mysterious Mr. Smith (George Eastman), made it possible for us to attend school in Cambridge instead of Huntington Avenue. It turns out that **Walt Swanton** is also with Pfaudler, but in plant construction, engineered by Pfaudler. . . That's all from Cal, and Cal, thanks a million. I need five more like you, and I would hear from every member of the class.

Too late to classify: I had dinner with Prexy Ed Goodridge, or I should say lunch, at the N. Y. Chemists Club, March 19. I can't cover a three-hour confab, because it was mostly of a reminiscent nature. I do have one tidbit: it seems that Ed will be baching it in Scarsdale, June 15 to September 15, and that any classmates visiting N. Y., for the Fair or any reason, need pay no hotel rent; just call up Ed, or better still phone his office, Goodridge Engineering, and he will send the limousine for you (or him). He says, "no hers" unless accompanied by a reliable person, or reasonably so. . . . The many friends of **Burton Ellis**, Ventura, Calif., will be saddened to hear that he passed away in December. I know that all will join me in extending our most sincere sympathy to Mrs. Ellis and his family. . . . In search of my first classmate grandmother, I offer here a couple of names that have turned up, in the hope of finding one; **Mrs. Peter Geddes** (Margaret Kelly), and **Mrs. Lucius B. Curtis** (Hazel Weld). And, to the rest of the girls, don't forget that each and every gal who tells me that she is a grandmother gets a fine bouquet of flow-

ers suitable to the occasion, from the secretary. . . . Caesar crossed the Rubicon. No fair looking it up; just out of mind, where is the Rubicon? First correct reply gets honorable mention, post mark considered. . . . I wonder what ever happened to **Douglas Johnston!** Do I hear? —**Warren J. Henderson**, Secretary, Fort Rock Farm, Exeter, N.H.

'34

A recent news item states that **Neal Karr**, vice-president and member of the board of directors of the Singer Company has been placed in charge of their Canadian operations. . . . The Class of '34 Advanced Gifts Solicitation for the Boston area was headed up by **Hal Reynolds** with assistance from Sam Blake, Charles Marchetti, Arthur Miller, Charles Sanders and Carl Wilson. . . . We have heard that **Henry Kaweck**, founder and vice-president of the Kaweck Chemical Company, is now doing considerable traveling in pursuit of new products—and also of his hobbies. . . . We saw **Paul Wing** recently and learned that he and Clare had just returned from a few weeks in the West Indies. . . . We also met **Walt Wrigley** one evening during a men's tour of the Boston Museum of Fine Arts—it ended with a cocktail party where our wives joined us. . . . By the time these notes are published **Del Keily** should have received shipment from England of a trimaran, a triple-hulled sailboat. He plans to keep this new 30-footer at Buzzards Bay. He joins **Henry Morss** as the second known member of our class to own a trimaran. . . . Word from the Alumni Office advises that **Aaron Redcay** has moved from North Quincy to Flamm Park, N. J. . . . Please send your secretaries news about yourself, your families and other members of the class—news clippings are welcome.—**Norman B. Krim**, Secretary, 15 Fox Lane, Newton Centre 59, Mass.; Co-Secretaries: **Kendrick H. Lippitt**, 3782 Putter Drive, Chula Vista, Calif.; **Charles M. Parker**, 3 William Street, Norwalk, Conn.; **W. Olmstead Wright**, 1003 Howard Street, Wheaton, Ill.

'35

As you read this many of you will be thinking about getting packed and ready for our big 30th Reunion June 11 to 13 at the Chatham Bars Inn. Even at this late date it might not be too late to take care of you. But better phone the Inn direct at Chatham, Mass. In any case come if you can, even for just a day or an afternoon. We know there are many conflicting college and school dates with your children. . . . **Arthur Cohen** wrote to bring us up-to-date: "Just a note to tell you I am still practicing architecture as **Arthur H. Cohen and Associates** in Boston, Mass. At present I am doing a 64-unit P.H.A. Housing for the Elderly, a 44-apartment F.H.A. low income rehabil-

itation project, three Temples and a Greek Orthodox Church School among other things. My wife and I will be at the Boston University graduation this June when my oldest daughter Selma Beth receives her degree from the College of Liberal Arts and after she spends the summer working with the Mass. Society for Prevention of Cruelty to Children, she will be at Columbia University Graduate School of Social Work. The May 1st week-end will find me at Smith College for father's week-end with my daughter Eileen Susan who is there in the Class of 1967. Eileen will be working this summer at the Jackson Laboratory, Bar Harbor, Maine. She has been and expects to continue to major in zoology. And then there is my son Robert who will be 13 years old the 4th of July. Mrs. Cohen and I are planning to go to the 30th Reunion and I will get our reservations in as soon as I can get squared away with several of my contracts." We'll be glad to see you, Art.

A number of '35ers are regional chairmen of the Alumni Fund this year. Included are: **Saul Comins**, Marblehead, Mass; **Leonard S. Wiener**, Teaneck, N.J.; **William J. Bates**, South Hills, Pa.; **Stephen F. Perry**, Westfield, N.J., and **Fred Lincoln** of Cranston, R.I.

News from here and there: **Ed Loewenstein** will represent M.I.T. at the inauguration of **Lewis Carnegie Dowdy** as the 6th president of the Agricultural and Technical College of North Carolina. . . . **Samuel P. Brown**, partner in the firm of Coverdale and Colpitts since 1952, has been elected president of the American Institute of Consulting Engineers. . . . **Ermano Garaventa** addressed the Connecticut Chapter of the American Society for Training and Development at their February meeting. Ermano is program manager for the environmental control system for the Lunar Excursion Module at **Hamilton Standard**. . . . **George A. Revell** was honored at a testimonial dinner upon his retirement as District Commissioner of Boy Scouts of Canada for the Cornwall, Ontario district. . . . **William T. Barker's** home address is now 14 Royal Ave., Rumford, Maine 04276. . . . **Carbon C. Dubbs** has moved to Santa Ana, Calif. and lives at 10251 Sunrise Terrace, Cowan Heights, 92705. . . . **Bernard H. Nelson's** home address is 11 Addison Lane, Greenvale, N.Y. 11548. . . . Next month you will have the dubious pleasure of reading this secretariat's last set of class notes. Don't miss it! See you soon.—**Allan Q. Mowatt**, Secretary, 61 Beaumont Avenue, Newtonville, Mass. 02160; Regional Secretaries: **Edward A. Edgar**, Kerry Lane, Chappaqua, N.Y.; **Hal L. Bemis**, 510 Avonwood Road, Haverford, Pa.; **Gerald C. Rich**, 105 Pasa-tiempo Drive, Santa Cruz, Calif.

'37

Many of our class are celebrating their 50th birthday this year. How about dropping a line to your secretary on what

you are doing this year? We are just two short years from our 30th reunion which will be held at the Oyster Harbors Club on Cape Cod. . . . **Les Klashman** is now located in Denver, Colo., as regional program director for Water Supply and Pollution Control Reg.8 U.S.P.H.S. He covers Montana, Idaho, Utah, Wyoming, Colorado and the Colorado River Basin. Les is the first of our class to admit he had reached his 50th birthday. . . . **Martin Garrott's** address is now 411 N.E. 36th Street, Miami, Fla. Martin is with the Pan American World Airways as superintendent, inspection, powerplants and components in Miami. . . . **Al Woll** wrote: "My daughter graduated this past June from Washington University, and has been teaching at Howard Watkins High School in Ladue. While Helaine, my daughter, was in St. Louis studying at the University, she became acquainted with one Anne Lief, the daughter of **Milt Lief**. Anne and Helaine have become extremely close friends. As a result, Milt and his wife Rose, have practically adopted her. Just about every visit I make to St. Louis now, I manage to see the Liefs or talk with them on the phone. Milt recently changed jobs, and is now associated with the Alvery Conveyor Manufacturing Company, of St. Louis. He seems to be quite happy with this new venture. In addition to Anne, the Liefs have two fine youngsters; Debbie, a freshman in high school, and Lawrence, a senior at the Ladue High School. Anne is a senior at 'Missou'. As for myself, I am still looking for oil, raising cattle and hogs, and wear a five-gallon hat. If I lived in Texas, I would wear a ten-gallon hat."

Several of our classmates are giving substantially of their time for the regional solicitation for the Alumni Fund. **Albert H. Shulman** is the regional chairman for the Hartford, Conn., region; **David N. Summerfield**, Oak Park, Ill., region; **George W. Ewald**, Orange, N.J., region; **Max Gerson**, Short Hills, N.J., region; **Rutherford Harris**, Shaker Heights, Ohio, region; and **J. Robert Ferguson, Jr.**, Sewickley, Pa., region. . . . During the month of April, Rose and I met **Ulrich Schondorff**, the 21-year-old son of **Bernhard Schondorff**, Erkelenz, Rheinland, Germany. It was Uli's first trip to the United States and we kept busy showing him Boston and, particularly, M.I.T. It was interesting to look at familiar landmarks through fresh eyes. We enjoyed his visit very much and hope he comes back to do his graduate work at M.I.T.—**Robert H. Thorson**, Secretary, 506 Riverside Avenue, Medford, Mass.; **S. Curtis Powell**, Assistant Secretary, Room 5-325, M.I.T., Cambridge, Mass.; **Jerome Salny**, Assistant Secretary, Egbert Hill, Morristown, N.J.

'39

Five '39ers this year are recorded as being regional chairmen for the current Alumni Fund. Having served in that same capacity for two years while in

Darien, Conn., I can speak with firsthand knowledge of the many hours spent in organizing for that worthwhile activity. Here are the five, and here are notes on all but one, gleaned from last year's Reunion notes. . . . **Charles S. Parker**, XV, Longmeadow, Mass., is a marketing consultant, specializing in the evaluation of new product analysis and development. . . . **Richmond W. Smith, Jr.**, VII, Grosse Pointe, Mich., who entered Yale in 1938 to take up medicine and later did postgraduate work in medicine at New York Hospital, is now physician-in-charge of the division of endocrinology, Henry Ford Hospital, Detroit. . . . **Robert L. Frank**, VI, lives in Great Neck, Long Island, N. Y. . . . **Peter M. Bernays**, V, Columbus, Ohio, is assistant to director of R & D, Chemical Abstracts Service, in Columbus. He is still active in the reserves, as a colonel, Chemical Corps. . . . **Harold R. Seykota**, XVI, The Hague, Holland, is now chief engineer of Sels of America (Nederland) N. V. And a recent address change notice from the Netherlands gives the Seykotas' new address as Laan van Meerdervoort 963, The Hague. Even Hal's telephone number is on the card, in case any '39ers are traveling abroad this summer and wish to make contact: telephone 33.87.72. (To be strictly correct, I should have defined this data as the "Nieuw adres" and the "nieuw telefoon". . . . **Jerome Gross**, IX-A, Waban, Mass., has been promoted from assistant to associate professor of medicine in the Harvard Medical School's Department of Medicine at the Massachusetts General Hospital, where he serves as associate biologist. His work is concerned with problems of developmental biology, and he is regarded as one of the country's foremost investigators, spanning the gap between the embryologists and biochemists and the geneticists. —**Oswald Stewart**, Secretary, 3395 Green Meadow Circle, Bethlehem, Pa. 18017.

'40

Bill Osmun recently joined the Information Services Department of the Air Transport Association of America as manager-technical information services. Previously Bill was editor of Business/Commercial Aviation and associate editor of Aviation Age. From 1945 to 1954, he was with Trans World Airlines as manager of technical liaison flight operations department. . . . **John Starr** has been appointed executive vice-president of the Badger Company's worldwide engineering operations. Previously, he was chief process engineer and then vice-president of engineering. . . . **Sam Goldblith** spoke before the M.I.T. group of Lehigh on the subject "Food for Thought." . . . Time is growing closer to our 25th Reunion in June. In fact, you will undoubtedly have received notice of the final plans before you read this column. It is still not too late, however, to notify Hap Farrell that you will be attending the reunion. . . . The Alumni Office has informed your secretary that

all contributions through December 31, 1965, will count toward our 25th Reunion Gift to the Institute. Let's everyone help our Class go over the top, and don't forget, "Life Begins with '40." Those who are giving more than their share of time to the Alumni Fund as Regional Chairmen are **Ted Kingsbury**, Wellesley, Mass., **Bill Peck**, Detroit, Mich., **Art Robbins**, Camden, N.J., **Bruce Duffett**, Chappaqua, N.Y., **Frank DeWolf**, Erie, Pa., and **Louis Russoniello**, Scranton-Wilkes Barre, Pa.—**Alvin Gutttag**, Secretary, Cushman, Darby and Cushman, American Security Building, Washington, 5, D. C.; **Samuel A. Goldblith**, Assistant Secretary, Department of Food Technology, M.I.T., Cambridge, Mass.

'41

Leslie Corsa, Jr., M.D., has recently been appointed director, Center for Population Planning and professor of Population Planning, School of Public Health, University of Michigan, Ann Arbor, effective July 1, 1965. He is now in his 12th year as chief, Bureau of Maternal and Child Health, State Department of Public Health, Berkeley, Calif. The Center for Population Planning has just been established as part of the new University of Michigan Population Program which includes its Population Studies Center and a new Center for Reproductive Biology. The program has received an initial grant of \$3 million from the Ford Foundation. It is expected to provide leadership in research, training and technical assistance to help solve the world's growing population problem. Leslie has been active in domestic population planning in his position in California and as chairman of the Committee on Population and Public Health of the American Public Health Association. He was a family planning consultant to the government of Pakistan during 1962-3 and is a special consultant to the Population Council, New York and to the Agency for International Development. . . . **Robert D. Fletcher** was among five new members elected for a three year term 1965-7 to the Council of the American Meteorological Society at its 45th annual business meeting held at the Park Sheraton Hotel, New York, in January. Bob has since 1951 been director of Scientific Services, Air Weather Service (recently redesignated director of Aerospace Sciences) Scott Air Force Base, Ill. He is one of the society's Certified Consulting Meteorologists, has served twice before as councilor (1945-47 and 1958-62) and was president of the society in 1956-57. His career has included airline meteorology; research and teaching at M.I.T., University of California at Los Angeles, and Brown University; technical advisory work for the U.S. Air Force during World War II; and direction of the Hydrometeorology Section of the U.S. Weather Bureau. He was one of the pioneers in the field of weather radar, headed the staff that initiated operational numerical weather prediction, and laid much of the

groundwork for operational use of weather satellite data. His publications include contributions to the Encyclopedia Americana, and he has participated in scientific congresses and symposia both national and international.

Eugene A. March, a vice-president of Crucible Steel Company, has been placed in charge of all the company's international activities except for Canada. This is an additional assignment to his continuing responsibility for operating services of the company and is the result of an effort to strengthen the company's expanding international sales of its steel. Reporting to Eugene will be the commercial director-Europe and president-Crucible Steel International, whose headquarters is in Paris; and works manager-Crucible Vanzetti and technical director-Europe, whose headquarters is in Milan. Since joining Crucible 19 years ago as a metallurgist, Eugene has had a variety of mill and technical management positions. In 1952 he was promoted to general supervisor of metallurgical control and the next year became chief metallurgist at the company's Sanderson-Halcomb Works in Syracuse, N.Y. In 1957 he became assistant works manager there. He was transferred to the Midland Works in 1958 as chief metallurgist and in 1959 was appointed assistant works manager, leaving that position in 1960 to become Crucible's director of metallurgy and, later that year, director of technology. He was elected vice-president of technology in 1961. Following this assignment he was named to manage the Operating Services Department. He is a native of Winamac, Ind., a member of the Association of Iron and Steel Engineers, American Institute of Mining and Metallurgical Engineers, American Society of Metals, American Iron and Steel Institute, American Ordnance Association, Society of Automotive Engineers and American Management Association. . . . Meriting our commendation and support are the following classmates who are giving substantially of their time for the regional solicitation in behalf of the Alumni Fund. They are Regional Chairmen: I. Warner Knight, Whittier, Calif.; Joseph H. Myers, New Britain, Conn.; E. Kirkbride Miller, Jr., Bethesda, Md.; Michael Driscoll, Brookline, Mass.; George B. Boettner, Corning, N.Y.; Willard S. Mott, White Plains, N.Y.; Rea W. Stanhouse, Bryn Mawr, Pa.; Lyle D. Pahnke, Beaumont, Texas; and Benjamin C. Scott, Jr., Dallas, Texas.—**Walter J. Kreske**, Secretary, 53 State Street, Boston, Mass.; **Henry Avery**, Assistant Secretary, 169 Mohawk Drive, Pittsburgh, Pa.; **Everett R. Ackerson**, Assistant Secretary, 16 Vernon Street, South Braintree, Mass.

'42

I had an interesting letter from **Howard Evans**, who is continuing his important work on crystal chemistry and crystal structure studies at the U.S. Geological Survey. Last year he was honored by being president of the American Cry-

tallographic Association and currently he is translating, from the Swedish, **Gunnar Hagg's** new book "General and Inorganic Chemistry." He claims that this project is the one tangible outcome of the year he spent in Stockholm some time ago. . . . I next have a brief note about two members of the class who were with us as graduate students. . . . **Robert W. King** has been appointed vice-president and general manager, cryogenic products department of the Linde Division of Union Carbide Corporation. . . . **H. E. Adams** is now a research scientist for The Firestone Tire and Rubber Company. . . . Finally, I think it would be wise for all of us in the class to pay tribute to those of our classmates who are working hard as regional chairmen for the Alumni Fund this year. Their work is extremely important to the success and continuing growth of the Fund. Their efforts are greatly appreciated: **Robert T. Howard**, John W. Lacy, Oliver P. Swope, Jr., Richard Cathcart, Howard W. Boise, Jr., William P. Van Nostrand, Adrian G. Marcuse, James K. Littwitz, James M. Blackwood and A. Homer Skinner, Jr.—**John W. Sheetz**, Secretary, Harvard Business School, Soldiers Field, Boston, Mass. 02163.

'43

Irene du Pont, Jr. became an assistant director of the employee relations department of Du Pont on March 1, 1965. A member of the board of directors of the Du Pont Company and production manager for "Tedlar" P.V.F. film in the company's Film Department, Irene is a great, great grandson of the founder of the company and the son of the late Irene du Pont, formerly president of the company and honorary chairman of the board. He was elected to the board on May 18, 1959. He has been with the company in engineering and supervisory positions since 1946 when he started as a development engineer at the Arlington, N. J., Works. His career with DuPont has included engineering and supervisory work at the Washington Works, Parkersburg, W. Va., and the Belle Works, Charleston, W. Va. In 1963 he was elected a term member of the Corporation of the Massachusetts Institute of Technology. He is a trustee of Tower Hill School, the Mt. Cuba Astronomical Observatory, Inc., and the Longwood Foundation. He is a member of the board of directors of the Pilot School and the Wilmington Trust Company. He is treasurer, assistant secretary, and a member of the board of directors of the Wilmington General Hospital. . . . Xerox announced the promotion of **Ben Parran**, assistant vice-president, to direct the work in the Systems Development Division, which will focus on other products leading to diversification such as long distance xerography, information storage and retrieval systems and micro-imaging devices. Ben was formerly with United Shoe Machine Corporation, and from

1951 until 1965 was with General Electric Company where he was manager of G. E.'s Polaris program.

Classmates who are active in the Alumni Fund Regional and Special Gifts Solicitation are: **Barry Russell 3d**, Wilmington, Del.; **Curt Smith**, Park Forest, Ill.; **Art Vershbrow**, Newton Center, Mass.; **Al Bakker**, Buffalo, N. Y.; **Fred Kaneb**, Montreal, Canada; and **Gil Gould**, Utica, N. Y. . . . It is with sincere regret that I inform you of the death of **John E. Harsch** of Cheshire, Conn., on March 3, 1965. He was employed by the Naugatuck Chemical Company and was active in community affairs. He represented New Haven on the M.I.T. Alumni Council.—**Richard M. Feingold**, Secretary, 266 Pearl Street, Hartford, Conn.

'46

W. Howard Auerswald learned swimming and lifesaving many years ago at camp in Minnesota, and he put this knowledge to use last February. For his work, the Carnegie Hero Fund of Pittsburgh awarded him a bronze medal. Howard, his wife and three children were vacationing at Ft. Lauderdale, Fla., last February, when, while walking along the beach at 6.30 in the evening, he heard calls for help from the water. One of three scuba divers had had equipment failure, had panicked and grappled with a second diver, and in the ensuing struggle had been cut by a knife strapped to the wrist of the swimmer. Howard stripped to his shorts and swam out to the scene. He towed the second swimmer 500 feet to shore while the third swimmer held up the injured man. He swam out again and towed the injured and bleeding man 1,300 feet to shore while the third man swam to shore without aid. To add to Howard's mental problems, he had just completed a large supper, and he knew that there were sharks in the vicinity since he had seen some earlier in the day. We would like to add our class' congratulations to Howard for his quick thinking and heroic actions. . . . **Ralph H. Berman** writes in response to our February comments about the location poll for next year's reunion. He votes for Bermuda. (That makes two votes received since the February issue, one for and one against Bermuda.) Since leaving RCA Victor in 1956 Ralph has been involved in the real estate development field in Montreal, Canada. "I was lucky enough to have been given the responsibility for the promotion, construction and rental of four major high-rise downtown buildings, as well as one supermarket out in the boondocks. All but the latter were built speculatively, and fortunately rented very quickly." Ralph was made president of his company, Waldorf Realities Limited, and they are moving into new business premises at 1110 Sherbrooke Street West, Suite 2600, Montreal. "We are not in the mood now for further speculative developments and would welcome suggestions

for investment opportunities anywhere in the world." Ralph reports the arrival of number two son last July.

Shepard M. Arkin, formerly assistant operations manager for Raytheon's Missile Systems Division in Lowell, Mass., has been appointed assistant director of government marketing and manager of government marketing programs for the firm. Shepard was with Chance Vought Aircraft Company from 1947 to 1951, and from then until 1956 he was technical director, air-launched missiles, with the Navy Department's Bureau of Aeronautics. Shep is a member of the Air Force Association, the Navy League, American Management Association and the American Society of Naval Engineers. He is also a professional engineer in Massachusetts as well as an associate fellow of the American Institute for Aeronautics and Astronautics. He and his family live at 25 Whipple Road, Lexington, Mass. . . . Some of our class are active as regional chairmen for the 1965 Alumni Fund. They are: Noel N. Coe, New Haven, Conn.; Gene T. Parish, Concord, Mass.; Morris A. Chomitz, Ambler, Pa.; Samuel Gusman, Huntington Valley, Pa.; George A. Ley, Jr., North Hills, Pa.; and Ted Church, Albuquerque, N.M. . . . The following changed addresses have been received. Major **Kenneth J. Hauser**, Box 228, South Whitley, Ind. and **William H. Peirce**, 7 Elm St., Mystic, Conn. . . . That's all the news we have this month. In the words of Bob and Ray, "write if you get work."—**John A. Maynard**, Secretary, 25 Pheasant Lane, North Oaks, St. Paul, Minn. 55110.

'47

Now that the typewriter is dusted off once again I'll uncover the accumulation of mail. . . . I received a letter from **John B. Williams** who was transferred by American Machine and Foundry from Greenwich, Conn., to Alexandria, Va. His assignments in the research division involve long range new product research. He joined A.M.&F. in 1951 straying from his formal training in Electrical Engineering to work in operations research. . . . **Hugh H. Lavery** has been appointed manager of Paper Coatings at International Paper Company, Northern Division. Hugh has been with the firm since graduation. . . . **David H. Frantz, Jr.**, president of Ocean Research Equipment, Inc., was guest speaker at the Western Massachusetts Section of the Instrument Society of America meeting recently. . . . **James M. Ham** has been appointed head of the electrical engineering department at the University of Toronto. . . . **Arthur J. Zito** has given a number of addresses on "The Race to Space," a combination of factual information and anecdotes. . . . **Norman B. King** has a son, Norman E. King in the Class of '68. Does that make you feel older? . . . **John G. Truxal**, dean of engineering at Brooklyn Polytech, is currently serving as president of the Instrument Society of America. . . .

Arthur W. Spiro, Vice-president of Waumbecc Mills, Inc., New York, was elected president of the American Society for Textile Technology at the annual meeting recently. . . . **Thomas P. Cheatam, Jr.**, formerly vice-president of Litton Industries, is now on the staff of Defense Director of Research and Engineering (Tactical Warfare Programs).

S. Bruce Smart, Jr. was appointed to the newly created post of vice-president, marketing and corporate planning, Continental Can Company. He was formerly vice-president and general manager of Continental's Central Metal Division in Chicago. . . . **Samuel Mason** has been engaged in developing research at M.I.T. programing sensory communications and sensory aids for the blind. . . . **W. L. Freyberger** will represent the Institute at the inauguration of the new president of Michigan Technological University. . . . Now for some new addresses: **Arnold M. Varner**, Whitin Machine Works, Whitinsville, Mass.; **Ress E. Tulloss, Jr.**, 433 Concord Road, Weston, Mass.; **Arthur Schwartz**, 144 South Camden Drive, Beverly Hills, Calif.; **Nathaniel Mann, 3rd**, 257 S. Grove Street, Bowling Green, Ohio; **Stanley K. Landgraf**, 1322 Lockett Lane, St. Louis, Mo.; **Mathias R. Kondolf, Jr.**, 1756 Main Street, Victor, N.Y.; **Robert L. Heaton**, 3369 Springhill Road, Lafayette, Calif.; **Paul M. Cook**, Raychem Corporation, Redwood City, Calif. **Frederick P. Adams**, Route 2, Tuscumnia, Ala.; **Carroll A. Andrews**, 44 Randolph Road, Silver Springs, Md.; **Charles L. Bauer**, 2601 Marilee Street, Houston, Texas; **Edwin R. Clarke**, 612 Oak Avenue, Lake Bluff, Ill.; **Arnold A. Winslow**, 5739 Briarcrest Avenue, Lakewood, Calif.; **Richard F. Wiggins**, Gyromat Corporation, 180 Garfield Avenue, Stratford, Conn.; **Harlowe H. White**, 380 Warwick Avenue, Warwick, R.I.; **William W. Powell**, 10622 Overbrook Drive, Houston, Texas; **Gilbert S. Parker**, 500 East 77th Street, New York City; **Raymond A. Loughman**, 310 Warren Road, Glenview, Ill.—**Martin M. Phillips**, Secretary, 41 Avalon Road, Waban, Mass.

'48

Some 14 of our class members got-together for a little reunion at Morgen's Restaurant in New York on March 30. Unfortunately, I was not able to attend as I was just recovering from a bit of minor surgery for the removal of a cyst (am now on my feet and feeling great again), but I understand that among those present were Ken Brock, Dave Cist, Ben Brettler, Carl Boll and our secretary Bob Mott, who undoubtedly will have a more detailed report of this meeting in next month's notes. . . . According to a recent press clipping, **David F. Doonan, X**, has been promoted to group leader in the research department of Shawinigan Resins Corporation, Springfield, Mass. Dave will head a new engineering group with responsibility for developing products and processes of the

firm, which is a subsidiary of Monsanto Chemical Company. Following receipt of his S.B. in chemical engineering, he went on to the University of Massachusetts where he received an M.S. in the same field. After serving in the Army, he joined Shawinigan as a research engineer and in 1961 was promoted to pilot plant engineer, the post he held prior to his recent promotion. He and his family live in Longmeadow, Mass. . . . **Richard W. Eddy, V**, has been appointed a vice-president and business area general manager of the Chemicals Division of Union Carbide Corporation. **Dick** has been with the corporation since 1940 when he became a laboratory technician at the South Charleston, W. Va., plant of the Chemicals Division. In 1948, he was transferred to the New York office where he served in the new chemicals sales development area for the division. From 1962 until his present appointment, he has been general manager—chemical intermediates. **Dick** took his B.S. in chemistry at Ohio University in 1940 and his S.M. in organic chemistry with our class. . . . **Robert I. Hulsizer, Jr.**, VIII, former professor of physics at the University of Illinois, has been appointed professor of physics and director of the Science Teaching Center at M.I.T. **Bob** took his doctorate in physics with our class. . . . Last February it was announced that **Lawrence Levy** had rejoined Allied Research Associates, Inc., as president and chief executive officer. He is also a director of the company. In accepting this position, Larry resigned as corporate vice-president—international staff of the Raytheon Company. He founded Allied Research in 1951 and served for 10 years as president and chief executive officer. In April, 1961, he took leave of absence to accept a Presidential appointment as principal civilian representative of Defense Secretary Robert S. McNamara in Europe, North Africa, and the Middle East, as well as Defense Advisor to the U.S. Ambassador to NATO, Thomas Finletter. In the latter role he carried the rank of minister. Larry served on this assignment in Paris, France, until July 1963. From 1949 to 1952, he was a member of the staff of Tech's aeronautical engineering department where he was the project director of a high priority Air Force sponsored program investigating the effects of atomic blast on aircraft structures. Receiving his B.Aero.E. degree from New York University, he took his S.M. in aeronautical engineering with our class. Larry is currently vice-chairman of the Department of Defense Committee on Military Exports of the Defense-Industry Advisory Council, and a member of the Standing Committee on Science and Technology of the Greater Boston Chamber of Commerce. During World War II, he served with the Army Air Corps as an officer in the American, China-Burma-India and North African Theaters of operation. Larry, his wife, and three daughters reside in Newton Center, Mass.

David W. Lillie, VIII, manager of metal studies at the General Electric Research Laboratory in Schenectady, N. Y.,

participated in the development of a new type of magnetic coil with a field of 132,000 gauss, which was demonstrated recently at the Laboratory. The coil is described by scientists as "a substantial new achievement in world-wide superconductor research." The high mark of 132,000 gauss gave the "super-magnet" a pulling power over 300 times stronger than an equivalent area of a commercially available permanent magnet alloy. The coil operates at liquid-helium temperature (4.2 degrees K.; 452 degrees F. below zero). According to Dave, "even higher fields could be achieved by reducing the temperature, but we feel the significant figure is that reached at the more conveniently obtained temperature of boiling helium." Only 3,500 feet of a unique, commercially available niobium-tin wire (Cryostrand-49) is required for the record-breaking coil. . . . **Philip J. Solondz, XVII**, was elected president of the New Jersey Home Builders Association at their annual convention in Atlantic City on March 4 to 7. He was formerly first vice-president of the 1,500-member organization. Phil, from a family of builders and lumbermen, earlier served as state treasurer, secretary and second vice-president. This year he also headed the N.J.H.B.A. legislative committee. Phil is also a former president of the New Jersey Shore Builders Association. During World War II he served with the Navy in the Pacific. In 1956, after six years with a lumber firm, he turned to full-time construction activities ranging from single-family homes to some commercial and industrial construction. . . . There's been considerable talk from Washington in recent months about plans for a Great Society. This is all well and good, but in matters closer to home—that of our Class affairs—there's one little thing that we can do to make our class a great society of its own, and this is to pick up pen and paper (a mere postcard will do) and write us a note concerning your recent doings (new home, birth, promotion, change of job, publication, civic or community job, honor, travel, etc.) which would be interesting news to your old friends and classmates. I don't believe there is one of us who doesn't pick up *The Review* each month and quickly flip back to the class notes to see if there isn't some news about dear old '48. Yet to have a column each month requires a sufficient supply of information and material. Our reliance on press clippings alone is grossly inadequate. Hence, we need your help in order to continue these notes. Just a short note is enough to fill us in. I believe one of the things each of us would like to look forward to is a continuous chain of monthly columns (or news-letters, if you wish) without a void or discontinuity every second or third issue of *The Review*. So let this then be our '48 motto in 1965: "Don't Delay—Write Today!" Better still, why not resolve right now to program an hour or two of your coming summer vacation to write us a nice long letter?—**John T. Reid**, Assistant Secretary, 80 Renshaw Avenue, East Orange, N. J.; **Robert R. Mott**, Secretary, Kent School, Kent,

Conn. 06757; **Richard V. Baum**, Assistant Secretary, 1718 East Rancho Drive, Phoenix, Ariz.

'49

John Sutherland, who has been with the Fisher Body Division of General Motors Corporation since graduation, will be the production manager at the new Fisher metal fabricating plant in Kalamazoo, Mich. John has risen steadily at Fisher and as a consequence has lived where promotions directed. He started out at the general offices in Detroit and then after a year was made an inspection foreman at the Flint plant. By 1953 he was chief inspector at the plant in Euclid, Ohio. Returning to Flint, he served successively as production engineer, general foreman, chief inspector, and tool and die superintendent. In 1957 he moved to the Grand Blanc, Mich., plant as shift plant superintendent. This job ended with his promotion to production manager of the Fisher metal fabricating plant near Pittsburgh, Pa. . . . **Harrison Thibault** has been appointed by the selectmen and school committee members of Hopedale, Mass., to be that town's representative on the Blackstone Valley Vocational Regional School Committee. Harrison is an engineer at the Draper Corporation. . . . **Dick Batchelder** is a design specialist, Solid and Fluid Physics Department, Missile and Space Systems Division, of the Douglas Aircraft Company in Santa Monica, Calif. His paper in the A.I.A.A. Journal on "Shock Shape Generalization for Inverse Blunt Body Methods" was sponsored by his company's independent research and development program. The paper is highly technical and requires the reader to possess ability in the field of mathematics. Although I didn't understand it I was much impressed as I suspect you would be too. . . . The Award for Outstanding Services to Meteorology by a Corporation was this year conferred upon *The Christian Science Monitor* of Boston, Mass., "for consistently doing an outstanding job in reporting news about the atmospheric sciences. This has been accomplished through the medium of on-the-spot stories of new developments as well as by extensive feature articles treating particular aspects of meteorology. The dual role of public service and education by this exceptional newspaper makes it richly deserving of the Award."—so states the American Meteorological Society. The award was accepted for *The Monitor* by **Robert C. Cowan**, Science Editor.—**Fletcher Eaton**, Secretary, 42 Perry Drive, Needham, Mass. 02192.

'50

I thought you would like to see the following list for it tells the names of your classmates who are giving substantially of their time for the regional solicitation: **John M. Fitzpatrick**, Contra Costa, Calif.; **Roy E. Hale, Jr.**, Palos Verdes, Calif.; **Johnson Mossman**, Denver, Colo.;

Philip J. Byrne, 3d, Waterbury, Conn.; **Richard E. Dobroth**, Highland Park, Ill.; **John M. Hetherington**, Hinsdale, Ill.; **Edward J. Schickli, Jr.**, Louisville, Ky.; **William B. Corcoran, Jr.**, Holliston, Mass.; **Jules J. Van Deun**, Dearborn, Mich.; **Robert A. Snedeker**, Redbank, N.J.; **William D. Walther**, Dayton, Ohio; **A. Gideon Spieker, Jr.**, Toledo, Ohio; **William F. Maroni**, Providence, R.I.; **W. Paul Jensen**, Alexandria, Va.; **Richard H. Johnson**, Seattle, Wash.; **Alfred B. Steck**, Milwaukee, Wis. . . . **Howland A. Larsen** was appointed senior research engineer in the research and development division of DuPont's Plastic's Department at the Experimental Station. He is presently living at 211 Oakwood Road, Wilmington. . . . **Andrew C. Price** has been promoted to director of distribution operations at Xerox Corporation. In his new post, he is responsible for all of the company's shipping, warehousing, traffic and distribution engineering operations, including seven regional centers in the United States and Canada. Since joining Xerox in 1963 as manager of distribution control, Andrew has served as manager of distribution operations. For seven years he was manager of planning and distribution for Kordite Corporation. He was associated with Price Waterhouse Company and Sylvania Electric Corporation as well. Andrew and his wife and their four children live at 24 Leonard Crescent, Penfield, N.Y.

Edward L. Perkins has resigned as manager of economics research for the Southern California Laboratories of Stanford Research Institute at Pasadena and will join Management and Economic Research Associates here as a principal member of the firm. Edward joined S.R.I. in 1954 and for several years has headed a staff of 30 in the Institute's Southern California operations. He also engages in economic studies and planning for industry and government. He has directed several large market research programs for the electronics and chemical industries, covering components and systems, diversification opportunities and market analyses. Additionally, Edward has been directly concerned with studies involving long-range corporate planning, marketing for airlines and aviation equipment manufacture, land use and development planning for developers and communities, and recreation projects for private and public sponsors. . . . **James J. Bennett** has joined the Midwest Dental Manufacturing Company, Melrose Park, Ill., as vice-president. His business experience includes a variety of management duties with the Thompson-Ramo Wooldridge Corporation. Most recently he has been vice-president and manufacturing manager of the Hewett-Robbins Corporation, Chicago.—**Gabriel N. Stillian**, Secretary, St. Clair and Welch, Inc., 10 East 40th Street, New York, N.Y. 10016.

'51

We seem to get a lot of our classmates coming back to M.I.T. to give talks, seminars, colloquia, or what-have-you; case in

point: **Daniel von Recklinghausen**, Chief Research Engineer at H. H. Scott, presented a lecture to the student branch of the Institute of Electrical and Electronic Engineers on "Hi-Fi and Solid State," and **James Friend** presented an Earth Science Colloquium on "Stratospheric Aerosols." Jim is with Isotopes, Inc., in Westwood, N. J. . . . **Campbell Searle** has been in the news again, this time for delivering a series of lectures on "A New Look at Transistors" for the Boston section of the I.E.E.E. Campbell is an associate professor in the electrical engineering department at Tech, and is the chairman of the semiconductor electronics education committee. . . . **John P. Costas** has been named to the grade of fellow by the I.E.E.E.—the citation was made to John for "his contribution to communication theory and techniques." He is currently a consulting engineer for General Electric's heavy military electronics department in Syracuse, N.Y., and has been associated with that group since 1951. He also served on the technical advisory panel for electronics which reports to the Secretary of Defense. . . . **Marion E. Langstaff** (Mrs. Russell O.) is a senior planner for the King County Planning Department (Seattle, Wash., area). In addition to husband Russell her family includes three children (ages 12, 10, and three, and, as of a year ago, a dog. Their hobbies are camping, hiking and music. . . . **Ray Madsen** is the department head of analog design at Beckman Systems, Fullerton, Calif., and is planning commissioner for the city of Brea. In addition, Ray counts himself in as another one of our classmates who is a qualified private pilot. **Frank Mamrol** has been with General Electric's re-entry systems department in Philadelphia since late 1961. He is manager of strategic vehicle engineering. Prior to this he was chief engineer at Piasecki Aircraft Corporation. He and Jane (Roseberg) live in Springfield, Pa. . . . **John Morgenthaler** was due to finish his Ph.D. thesis (Supersonic Mixing of Hydrogen and Air") at the University of Maryland last fall and put in a claim for, and I quote, "the questionable distinction of obtaining the last Ph.D. by a '51-er." I'm not sure whether he is the last, but I am almost certain that if he expected it in the fall, his thesis advisor figured out a way to hold him off till at least the spring—c'est la guerre, John. John is actually employed at the Johns Hopkins Applied Physics Lab and is working on his thesis and degree in conjunction with the University of Maryland. He and Kay live in Beltsville, Md., with John David, five, and Jennifer Ann, three. . . . **Roy Niemela** was awarded a Ford Foundation grant to do research full time at the University of Florida where he has been teaching economics and management since 1957. Talk about being an expert in one's field, Roy's second child (another boy), was born on December 30 "specifically for," says Roy, "the tax advantage." . . . **Rai Okamoto** is currently urban design consultant to the Urban Renewal Administration in Washington, D.C. With his partner (a Harvard man) he is planning a new town in the San Francisco Bay area for about 30,000 people. Rai is also a consultant to the

state planning office for a study on environmental quality and amenity for the California State Development Plan, and he was a design consultant for the Ithaca, N. Y. Redevelopment Project. Among his clients on the latter project was Burnham Kelly, '41, now dean of Cornell's architectural school.

Melvin Rubin is on the staff of the physics department at Tech/Ops in Burlington, Mass. He and Barbara live in Lexington, Mass., and have a nine-year-old daughter, Marla. . . . **Paul Sanders** is with Boeing in Seattle as manager of the Aerospace Division (Saturn requirements), Paul and his wife Helen have four children: the two oldest (11, and 9) are boys, which leaves only one alternative for the 7 and 5 year olds. Paul's hobby: that late 20th Century fascination: flying his own Cessna 180 (on fishing trips into British Columbia). His is a seaplane! . . . **Pete Silveston** is with the department of chemical engineering at the University of Waterloo, Waterloo, Ontario. . . . **James Staples** was recently awarded a masters' degree in business administration by Rollins College. Jim is currently living in Orlando, Fla. . . . **Dan Sullivan** is design coordinator for IBM's real estate and construction division and has a small architectural practice on the side. Dan's comment: "Looking forward to early retirement," inspires my comment: Aren't we all? . . . **Louis Sylvia, Jr.** has been doing market development work with Tedlar (P.V.F.) film at DuPont. Lou says that he has to travel a lot but finds the work interesting and challenging. The Sylvias added their fourth, a boy, to their family about a year ago. . . . **Len Taigman** is still going strong at the Denver division of the Martin Company. Len is in the contracts division. He and Jo added their third in August (boy or girl, Len?), and rhetorically says that Colorado living is almost as great as Colorado skiing. . . . **Jack Wingard** extends an open invitation to anyone passing through the Springfield, Mass. area to call and/or stop by (RE-7-2689). He is with T. A. Parson Associates, building commercial and industrial buildings. They are currently constructing telephone buildings throughout western Massachusetts.

Thomas Hoffman has been appointed staff engineer at the Smithsonian Astrophysical Observatory in Cambridge, Mass. Among his duties will be the responsibility for the experimental portions of the four ultra-violet telescopes which will be orbited in the first Orbiting Astronomical Observatory satellite. Tom and Jill live in Marblehead with their two-year-old daughter, Betsy. . . . **Fred Radcliffe** spoke recently on "Data Processing (COGO) as applied to Civil Engineering Problems" at the annual meeting of the Connecticut Society of Civil Engineers. COGO is the application of coordinated geometry to solving land planning problems using computers. Fred is a selectman in the town of Essex, Conn., and serves as the town engineer for both Essex and Old Lyme. Coincidentally, I received a card from Fred at the same time that I received the news clip which told of his talk. His card mentioned that he plans to see us at the 15th, and hopes that

we get as good a turnout as we have before. . . . As Ann Landers says: Confidential to J.V.: "I was real pleased to receive your letter from Greece—can't I use even a little bit? At least let me tell the class where you are?"—**Howard L. Livingston**, Secretary-Treasurer, 358 Emerson Road, Lexington, Mass. 02173; **Forest Monkman**, Assistant Secretary-Treasurer, 108 Park Avenue, Larchmont, N.Y.

'54

Summer time—graduates in their black gowns—and the delightful memories of our reunion but a year ago, a delightful month to be here in Cambridge. . . . News was received that **Bob Anslow** was leaving Raytheon and taking a job with a small New York firm as an assistant to the president. . . . If you are in need of legal advice, wait a bit and **Coley Bresee** will be able to assist you. Coley is studying law at night and running a family corporation during the day. He has also remarried, but I don't have any details. . . . **Ray D'Arcy** is reported to be still a bachelor and working in physics for U.C.R.L. . . . "Product Assembly in Clean Rooms" was the general subject, The Reflector for March, 1965, was my source, and **James L. Dwyer** was one of the three speakers. Jim discussed the general subject of contamination; sources, available means of control, federal and industry specifications, and levels of contamination in various environments. He also received a master's in chemical engineering from M.I.T. (1959), and is currently director of new product development for the Millipore Filter Corporation. . . . I received a nice letter from **John Goncz**, who had just returned from a week of skiing in Aspen, Colo. (You see, we did not have much snow in New England this year.) John and Pat are both the proud parents of a first child, Karen, born in January, and the proud owners of a new house in Westford. John is one of several of our classmates who work for E. G. and G., though he may have seniority on most of them, for he has been with them for 10 years. John has become an authority on xenon flashtubes and has co-authored an article with Doc Edgerton in the Encyclopedia of Electronics and had a paper in J.A.P. for March.

April 10 was Open House at the Institute. The weather was warm and sunny and the visitors came in droves. They were, according to reports, entranced by the many interesting displays, exhibits, and experiments. Of interest to the young in heart was the operation of the model railroad club. Coincidentally, I also had a letter from one of its old stalwarts, **Charles Smith**. Charlie has been with the New York Central System since 1957 and has the title, mechanical engineer-locomotive. . . . Several of our classmates have been active in Alumni Fund regional solicitation (perhaps one of them has called upon you). They are

Robert H. Brown, Old Greenwich, Conn.; **Rolf Kates**, Framingham, Emmanuel J. Otis, San Diego, **Anthony Romano**, Melrose, and **Edward Warekois**, Wayland. . . . Only one graduate this month. **Charles J. Drane** recently presented some of his work on the calculation of array excitation coefficients for Chebyshev arrays. . . . If you haven't already written, you have missed this year's volume, but, to coin a phrase, there is always next year, so do plan to write then. And you, too, can be immortalized in the Class News of 1954, but more importantly, you will keep in contact with your classmates.—**Bob Evans**, Secretary, 43 High Street, South Action, Mass. 01771; **Charles J. Masison, Jr.**, President, 387 Oak Street, Westwood, Mass.

'58

We received word from the west this month that **Ed Bell** is now with McKinsey & Company, the management consultant firm, and living in Pasadena, Calif. The Bells' have two children—a girl, four, and a boy, two. Ed is also one of the regional chairmen for the Alumni Fund this year. Other class members acting as regional chairmen are **Thomas Stewart**, Nashua, N.H., and **Robert Kelly**, Newport News, Va. . . . **Dick Hughes**, our Class Agent, reports that the Fund is progressing but the added goal this year is to increase the number of contributors. So let's make this a good year for '58. Send in now if you have not already and remember that you must designate special purposes such as the new I.R.D. Fund. . . . **Glenn Strehle** called from the Detroit airport during a recent business trip. Still in the investment field, Glenn was visiting some of the automotive parts manufacturers. Last summer Glenn and his wife Kathy spent three weeks in Europe and had a great time. . . . **Charles Robbins** is working at Raytheon's Machlett Labs in Connecticut on image intensifier tubes. He and his wife are living in Stamford and have two girls. . . . Author! Captain **John Forrest, Jr.** recently served in South Vietnam as a military advisor and wrote some of his experiences in "Letters from Vietnam" for Scouting Magazine. . . . **James F. Springfield**, now at Avco, Wilmington, Mass., co-authored "Chemical and Vibrational Relaxation of an Inviscid Hypersonic Flow" in A.I.A.A. Journal. . . . **Jorge Mezei** is currently in the Mathematics Department at the IBM Thomas J. Watson Research Center and his article, "On Relations Defined by Generalized Finite Automata," appeared in the IBM Journal, January, 1965. Jorge joined IBM in 1958, became an IBM Scholar in 1960 and then received his S.M. at M.I.T. in 1961.—**Michael E. Brose**, Secretary, 205 Pine Street, Tecumseh, Mich.; **Antonia D. Schuman**, Western Associate, 22400 Napa Street, Canoga Park, Calif.; **Kenneth J. Auer**, Midwestern Associate, 23105 Stoneybrook Drive, North Olmsted, Ohio.

'59

The input for the class notes seems to be suffering some drastic cutbacks as the end of the writing season approaches. If it weren't for two very welcome letters from **Carlton Gebhart** and **John Glenn**, there would have been just a blank line between the '58 and '60 notes this month, and I'd have given y'all up for lost because even the press clipping services couldn't dig up anything about you. . . . After graduation, Cully writes, he went to work for Hughes Aircraft as a stress analyst and attended U.C.L.A. on a company fellowship. Ten months after arriving in Los Angeles, he and Mary Ann were blessed with twin daughters, Susan and Karen—"the sunshine and good weather gets you feeling frisky," he explains. He received his M.S. in engineering in June, 1961 and, that fall, headed for Chicago and a position with the Armour Research Foundation (now renamed the I.T.T. Research Institute). As a project engineer engaged primarily in computer simulation of interceptor-missiles, he has found the work both rewarding and highly-demanding; I'm not sure which of these refers to the 75,000 air miles of travel logged in his three years with I.T.T. In 1963 the family increased by one more girl, Joyce, and another child is presently on the way—Cully makes it clear what he wants this time in writing, "Mary Ann is carrying my boy now!" Also in 1963 came election to Sigma Xi, the national research honorary, and last year he was chosen to the board of directors of the M.I.T. Club of Chicago. He concludes, "I wish I could add more about some of our classmates, but I have seen very few of them except for those at the reunion last year. We really enjoyed the affair, and I hope to see many more at the 10th Reunion!" Ditto, and thanks for writing, Cully.

Although also an M.I.T. mechanical engineer, John Glenn chose to follow a somewhat different career path. After graduating from the Institute, he went on to Duke as an instructor and graduate student in M.E., picking up his M.S. in 1961. Then, abruptly about-facing, he headed north to New York City and four years of medical study at Cornell University Medical College. This July he will begin a one-year internship at the University of Wisconsin Hospitals; then it will be back again to New York and a three-year residency in ophthalmology. He adds, "I have been putting my M.E. training to some use, doing research in ophthalmology in my spare time (but I find there is no such thing as a great deal of spare time in medical school)." John and his wife, Helen, whom he met while she was a nurse at Cornell, have two children—and, it appears, a fine future ahead of them. Good luck to you. . . . That's all for now, group. Please keep the letters coming; I'm too lazy to look for news and write it, too!—**Glenn W. Zeiders Jr.**, Secretary, 3 Rose Avenue, Watertown 72, Mass.; **Wayne L.**

Worrell, Assistant Secretary, 2335 Parker Street, Berkeley, Calif.

'61

This month's mailbag brought word of the plans and activities of two classmates; one is leaving France, the other is headed that way—by a roundabout route. **Mike Schneier** writes: "I've been in France (Evreux-Fanville Air Base), just an hour from Paris, since May, 1963. Now a 1st lieutenant (U.S.A.F.) I am holding the job of aircraft maintenance quality control officer. I'm hoping to return to the States and civilian life next February." . . . And from **Grady Harris** we have the following: "Finally some things are happening to me that are worth writing about after three years at graduate school here at Berkeley (headquarters of student violence U.S.A.). I have completed requirements for a Ph.D. in chemical engineering and accepted a N.A.T.O. postdoctoral fellowship in Science to work at the French Petroleum Institute in Paris from September 1965 to September 1966. Leaving here May 1 for four-month freighter trip through Orient and South Asia—second honeymoon for Sue and me. Will start with Esso Research and Engineering, Baytown, Texas, in September '66." Looks like Grady and I will have to organize a European Five-year Reunion a year from now, to compete with the Boston one. . . . Which brings us to our next subject. By now all of you have received information on Alumni Day, June 14. Note that as an added inducement for those still undecided, the class is holding a get-together of its own at the same time, in anticipation of our big reunion a year away. Final details are not yet arranged at this writing, but Boston-area alumni have gotten (or will shortly get) a letter giving full particulars. Be sure to check on the time and place for this function if you are in town. It's been two years since the class has gotten together, and there should be a good crowd there.

Ed Strachan and wife Liz are living in Orange, Mass., where Ed and John Stevenson (1960's secretary) are important in a small but growing firm, Riveto Manufacturing Company, which makes pens, mechanical pencils, and other stationery equipment. . . . **Roger L. Stover** has left his job at Argonne Labs and is now at Presbyterian University, Rawalpindi, West Pakistan, doing missionary work. He expects to return to this country in August. . . . I am sorry to have to report to you the death of **Harold G. Fritz, VI**, who was found dead of carbon monoxide poisoning in the garage at the family home at 305 No. Kenmore Street, Arlington, Va., last March 30. This is the second '61 man we have lost since graduation, and the first, to my knowledge, of the group that got Bachelor's degrees in 1961. . . . The Alumni Fund is sweeping to a dramatic close. The target, you will recall, was

\$1,500,000 by June 30. At this writing, the Fund is long past the million dollar mark, which means that last year's dollar performance was exceeded well before Spring appeared. The Fund is behind last year, however, in the important "number of donors" statistic. Apparently fewer and fewer people are giving more and more. Helping to remedy this situation, and push the dollar total up too, are the 200 regional chairmen of the Fund. You have to go back to '57 to find a recent class that has as many regional chairmen as '61 does. **Alan Cornell** is in charge of the Richmond, Va., area; **George Gilliland** is handling Jackson Heights, N.Y., and environs; **Don Marquis** covers the Fitchburg, Mass., area; and **Roy Walnwright** heads up the effort in and around York, Pa. A tip of the hat to these men, as well as to Class Agents **Grady Harris** and **Ken Kotovsky**, all of whom are giving generously of their time and effort to make the Fund a success. We'll hear on Alumni Day how they did. That's June 14, in Cambridge. Hope to see you there. . . . **Bill Jouris**, 73 Gardner Street, Alston, Mass., is looking for copies or originals of Hatfield cartoons, so if anyone knows of any, please contact him.—**Joseph Harrington**, 3rd, Secretary, 22 Hidden Road, Andover, Mass., 01810.

'63

Two months of silence on my part has succeeded in causing four people to write. To that I'll add what I've picked up in my travels. . . . **Steve Swerling** is now working in Cambridge after finishing his M.S. at Yale. **Raphael Soifer**, **Mike Platt**, **Steve Wanner**, **Steve Kaufman**, and others have just finished two grueling years at the Harvard Business School. . . . On the West Coast, **Bob Friedenberg** is trying out apartments in San Francisco. . . . **Bart Weitz** is now living in Mountainview, near San Jose. . . . **Jim Nick** is finishing his M.S. part-time while working for Boeing. He is also gradually nearing the altar, in the eyes of his unbiased associates. . . . **Robert Ratonyi** is working for G.E. in Philadelphia and is working on his master's in Engineering Management at Drexel. His wife, Eva, is a full-time student at Temple University. His 10-month old son isn't going to school yet. . . . **Paul Roth** has recently returned from Vietnam on the carrier Kitty Hawk. He finishes his tour with the Navy this month. . . . **Mike McHugh** was commissioned a 2nd lieutenant in the Air Force last March. He is now at Eglin, A.F.B., Fla., with the Tactical Air Command. . . . **Bob Campbell** has just received his M.S. from the Institute and will soon be serving his tour of duty with the Navy. . . . **Chang-yi Wang** published some of his work in the January issue of the A.I.A.A. Journal. . . . **Frank Model** will marry Suzanne Windholz of Vassar and Simmons School of Social Work this summer. . . . The Class Cocktail Party was held in early May for those in the Boston area. Since I am finishing Harvard this year,

send future news to the new address.—**L. R. Johnson**, Secretary, 1089 N.E. 91 Terrace, Miami, Fla. 33138.

'64

More \$3 donations to the class treasury have been received so that we have been able to completely pay off our \$140 debt for printing and mailing the class directory. We now have a small surplus that will be kept in the bank for future mailings and projects for the class. The class officers are deeply indebted to those who have voluntarily contributed and we will do our best to put it to the best use for the class. Contributions from those who have not yet given would of course be gratefully received and further add to the financial strength of the class. By the time this is published I will be at home for the summer: 2227 Vollintine Avenue, Memphis, Tenn. 38108. . . . The following are those who have given since the last issue: **Wesley Akutagawa** is doing graduate work in physics at Columbia. . . . **Bill Ames** is living in Austin, Texas. . . . **Ed Arnn** is married and at M.I.T. . . . **Bob Blumberg** is at M.I.T. . . . **Tom Cerny** is working on his M.B.A. at Stanford and likes the weather out there. . . . **Ambrose Clay** is working for Automatic Electric Labs in Northlake, Ill. . . . **Dayton Datlowe** is living in Armonk, N.Y. . . . **John Eulenberg** is studying linguistics at Harvard and in his spare time is making movies on witchcraft in Boston. One is planned to appear at Club 47. He will be marrying Marcia Wagner of Newton and Simmons College on June 27 in the M.I.T. Chapel. . . . **Larry Feiner** sent in his contribution. . . . **Rick Fisher** is working for United Research, Inc., in Boston and will be at Harvard Business School next fall. . . . **John Gallant** is at home in Columbia, S. C.

Joel Kalman is at Berkeley for his M.S. in electrical engineering. He may come back east to work at Lincoln Lab. . . . **Richard Kline** sent in his check. . . . **Jeff Michel** is at Tulane in electrical engineering. He has a graduate teaching assistantship and is program directing for the campus radio station. . . . **Don Mided** is living in Skokie, Ill. . . . **Bill Rentz** is our class hero with a \$5 contribution beyond the call of duty. He has switched from electrical engineering to the Ph.D. program in economics at Rochester. (Maybe more of us should switch to economics!) This summer he will be in Europe with a student economics program. . . . **Riley Sinder** is studying the viola at the Cleveland Institute of Music and is writing a secular cantata. . . . **Kim Sloat**, a member of the executive committee, is working as field secretary for Delta Upsilon fraternity. He will be finishing in August and will return to school, if the Army doesn't grab him first. He contributed news of several others in this issue. . . . **Doug Tuggle** is studying industrial administration at Carnegie Tech. He reports that the place is full of brass rats and ex-M.I.T. professors. . . . This completes our list of donors. The following is generally hearsay news from others: **Jim**

Allen and wife are expecting (or have received) a second child. He is working with Procter and Gamble. . . . **Don Alusic** is at Northwestern Business school and is thinking of returning to M.I.T. . . . **Mark Barron** says the social life at Stanford is not as great as expected. . . . **Dave Bivans** is in grad school at M.I.T. . . . **Pete Cooperberg** is in Medical School at McGill. . . . **Don Faber** was married to Jo Welch in December, 1964, and is now at the University of Buffalo. . . . **Harriet Fell** from Flushing, N.Y., is an M.I.T. teaching assistant and resident tutor at McCormick Hall in math. . . . **John Freeman** is working for Sandia in Albuquerque and going to the University of New Mexico. Rumor has it he was married this April to a girl he met out there. . . . **Herb Herrmann** is reported getting close to the big step of marriage. . . . **Bob Hirschfeld** is in medical school at Michigan. . . . **Richard Jenkins** is an economics evaluation engineer at Altas Chemical Industries in Delaware. He received his M.S. at M.I.T. . . . **Steve Meyer** is working with the Campus Crusade for Christ in Georgia. . . . **Tom Passin** is studying physics at the University of Chicago. . . . **John Prokopy** is in graduate school at M.I.T. . . . **Ed Shibata** is likewise at M.I.T. and a roommate of Bivans and Prokopy. . . . **Steve Sterling** is at Berkeley. . . . **Carl Uramacher** is living in the married student dorms at M.I.T. . . . **Abba Weinstein** runs the test lab for the quality control division of Transiron in Wakefield, Mass. He has contributed news of several members of the class for this issue. That's all the news for now.—**Ron Gilman**, Secretary, 2227 Vollintine Avenue, Memphis, Tenn. 38108.

Sloan Fellows

Robert F. Dunlop, '60, has been appointed sales manager (commercial) for the British Aircraft Corporation, Ltd., London, England. Mr. Dunlop formerly assisted in all commercial aspects of the corporation's civil sales program and in contractual negotiations with a number of airlines. . . . On January 1, 1965, **Eugene R. Karrer**, '59, was made product engineering manager for the Lincoln-Mercury Division of Ford Motor Company.

Russell H. Hedgecock, senior executive, Spring, '62, is superintendent of ocean engineering, Ocean Drilling and Exploration Company, in New Orleans, La. . . . On January 1, 1965, **Merle Dargel**, senior executive, Fall, '63, was promoted to the post of managing director, Caterpillar of Australia.

David H. Oswalt, '64, received a promotion in January and is now working in the Pentagon in the Office of the Comptroller, Headquarters, U.S.A.F. He was formerly with the Air Force Systems Command at Andrews Air Force Base in Washington, D. C.

Club News



Houston Alumni Turn Out For Killian and Carpenter

The largest spring dinner meeting in recent memory was held at the Houston Engineering and Scientific Society on March 15. Speakers were Dr. James R. Killian, Jr., '26, Chairman, M.I.T. Corporation, and Donald F. Carpenter, '22, President, M.I.T. Alumni Association. Mr. Carpenter gave insights into the wide range of Institute activities, mentioning the M.I.T. Choral Society trips to Germany and noting there are now three professors of music at M.I.T.

Richard T. Lyons, '17, introduced Dr. Killian who spoke on "Combating Obsolescence in Education." The amount of research going into education, he feels, is as yet wholly inadequate, however faculty members of various colleges are cooperating in developing new methods and ideas for secondary school courses. The effects of this effort are already becoming apparent.

Among the invited guests were: Mrs. Oveta Culp Hobby, Houston Post; Dr. Franz R. Brotzen, Rice University; Mr. and Mrs. John Cooper, Kincaid School; Mr. John Allred, University of Houston; Father John F. Murphy, University of St. Thomas; Mr. and Mrs. L. F. McCollum, Continental Oil Company; Mr. Walter B. Nelson, St. John's School; and Dr. Robert R. Schrock, M.I.T.—Edwin A. Reed, '45, Secretary, 6243 Briar Rose, Houston 27, Texas.

Orlando Club Elects Sanderson President

The M.I.T. Club of Orlando, Florida, held its spring meeting March 30 with Professor Peter S. Eagleston, '56, of the Institute as its speaker. The dinner meeting with wives was at the Villa Nova restaurant in Winter Park. Professor Eagleston's discussion of beach erosion was of great interest here where almost everyone has some association or concern with beaches. A lively question-and-answer period followed the talk. Demetrios (Jim) Athan, of the Tampa Club, brought photographs and gave a brief resumé of Dr. Killian's visit and address in January at Tampa.

Officers were elected for the coming year as follows: H. C. Sanderson, '43, president, L. M. Hailey, '50, vice-president, and L. D. Healy, '51, secretary-treasurer. Members of the executive committee in addition to the officers are W. B. Towles, '50, P. C. Hand, '48, J. C. Staples, '51, and W. A. Buss, '46. Others attending were Messrs. & Mmes. C. W. Finnegan, '34, J. C. Aronson, '22, J. C. Staples, '51, Raymond Mancha, '26, W. R. Lacy, '43, and G. D. Stevenson, '53.—L. M. Hailey, '50, Secretary-Treasurer, 5510 Davisson Avenue, Orlando, Fla.

Southern Californians Plan Regional Conference

The M.I.T. Club of Southern California is planning a regional conference next November 11. Many prominent members of the M.I.T. faculty will be in Los Angeles for the affair. It will start shortly after noon with three or four speakers and include a dinner with an evening speaker.—Bradford Bates, Secretary, 8344 Chase Avenue, Los Angeles, Calif. 90045.

Automated Kitchens, Future Food Hypothesized in Pennsylvania

"Food for Thought" was the subject of the spring meeting of the Lehigh Valley Club on March 23. Dr. Samuel Goldblith, '40, of the Institute discussed the new types of food appearing or soon to appear in the market place. Since the subject is one in which our wives are expert, we were joined by them. Dr. Goldblith discussed the changes that have occurred in the conversion of the food industry to a supplier of pre-packaged, pre-prepared convenience foods. Of the 7,000 items in a typical supermarket, 5,000 are relatively new, having been made available for the first time this past decade. Dr. Goldblith sees the kitchen becoming increasingly computerized and automated, complete with a rehydration section to take advantage of new freeze-dried foods and an electrically timed microwave oven. The emphasis will be on convenience in packaging and in preparation and in developing methods of preservation which do not alter flavor values.—F. W. Hammesfahr, '40, Secretary, 2260 Woodlark Circle, Bethlehem, Pa. 18017.

Washington Group Visits Naval Observatory

More than 200 alumni and their wives visited the U.S. Naval Observatory on April 8. The observatory's 26-inch telescope and atomic clock were on display and a movie explained the functions of the observatory and its historical achievements. The evening, arranged by Sterling Iverson, '41, ended with coffee in the library which, in shape, if not in size resembled the old central library at M.I.T.

Interest in the downtown luncheon club is growing. Twenty-one alumni and their guests heard Rollin Gillespie discuss "Mars as a National Goal."—J. J. Phillips, Jr., '38, Publicity Chairman, 3606 Fulton Street, N.W., Washington, D.C.

Earth Sciences Discussed at Baltimore Dinner

The M.I.T. Club of Baltimore held its winter dinner meeting on March 3 at the House of Welsh. We were privileged to have as the speaker Professor Dayton E. Carritt of the Department of Geology and Geophysics of M.I.T. He spoke on and illustrated current projects undertaken by M.I.T. in geology and oceanography. Also attending the meeting were faculty and staff members of the Department of Geophysics of Johns Hopkins University. Our next meeting has the election of officers on the agenda.—Hans G. Morgenstern, '58, 45 Dundalk Avenue, Baltimore, Md.

Japanese Alumni Hear Quartet From Cambridge

The M.I.T. Association of Japan held a dinner party on March 27 in honor of four visiting Institute professors. Professors John Chipman, Arthur Ippen, and R. J. Hansen, '48, spoke briefly on their departments and Dean William Seifert followed with an illustrated talk on the growth of facilities at M.I.T. This meeting was well-attended by Alumni in Japan and members of the Japan Industry Club.

Changing Your Address?

If you are moving, please let us know five weeks before changing your address. Attach address label from your magazine to this coupon, giving us your new address below, and send it to Alumni Association, M.I.T., Room E19-439, Cambridge, Mass. 02139.

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Feedback

Professional Responsibilities

FROM ARTHUR J. WEINBERGER, '41:
YOUR ARTICLE "The Engineer in the Public Arena" (March, 1965) was a most interesting and timely one. Many of us in engineering practice have felt we should be playing a larger part in public affairs, not only as individuals, but through our professional groups. Not that the professional groups should as such become involved in political controversy . . . we in general believe that this should be done by the individuals as citizens. But at least some of us believe that the professional groups should speak out for the specialty (whether it be a group of electrical engineers, chemical engineers . . . or for all engineers) about matters where our technical competence can help to clarify the technical aspects. It is our belief that the technical professional groups can and should make themselves be heard as authorities on at least the technical aspects. . . .

On your point that engineers are too often stereotyped as being disinterested in the social context of their work, and noncreative, I could not agree more. However, don't you think that engineers are in general, and perhaps should be, somewhat more conservative in their outlook than scientists? Not that the engineers should not be, as you say, "independent-minded, questioning, concerned," but that engineers are and perhaps should be, more concerned with how to fit the science into the over-all social context. Though perhaps it is an exaggeration, I can't help but compare the scientist to the poet and the critic, who perhaps sees and points out the problem and the need, while the engineer views the problem in the over-all context of the social environment and tries to figure out just how to work out means for coping with the problem or need. Not that this requires less creativity on the part of the engineer, but the engineer's role is less obvious and considerably less glamorous. And

this concern makes it appear that the engineer is more conservative and less creative. From my limited point of view, I would almost go so far as to say that the scientist is perhaps somewhat less willing than he should be to see that not only should his own specialty be considered for support (since that seems to be a major preoccupation of many scientists at the present time), but that there are also many other worthy problems which also need to be considered and worked on. And not all of these are problems of high scientific (and engineering) interest. I am appalled at the willingness of scientists (and I must admit, some engineers) to commit large sums of money to exploration of outer space, as an example, while ignoring the problems of how to get to and from work safely and expeditiously. Perhaps this shows that I, as an engineer, am conservative and unimaginative, and uncreative. Perhaps, though, it also shows that I as an engineer am concerned that the scientific-engineering community may not be showing the perspective, the logic, and the mature judgment which the nation has every right to demand of us.

Silver Spring, Md.

(Mr. Weinberger's letter refers to an article by Dr. James R. Killian, Jr., '26, drawn from the text of a Roy V. Wright Lecture to the American Society of Mechanical Engineers. *The Saturday Review* published a similar portion of the lecture May 1, and said Dr. Killian had "summoned the engineering community . . . to loftier levels of expression akin to poetry.")

Oh, To Be a Freshman!

FROM H. E. WEIHMILLER, '25:
I READ with avid interest your article "A Particulate View of Physics" in the April issue . . . How I wish I could experience the challenges, the demands, the opportunities, and the ecstatic joys of being a freshman again!

Washington, D.C.

An Unfortunate Omission

FROM BURTON ROCKWELL, '46:
I WAS very much interested in the article ("M.I.T. Crews Get New Boathouse") in the April issue of *The Review*. Remembering my own difficulties in trying to get from my last class at the Institute to the boathouse before my crew had its shell in the water, I can welcome the new location and of course envy the future students who will have a tank and modern equipment. . . .

Even if there is no obligation in the responsibility of the press to say who did the design that you praise, cannot it be assumed that it is newsworthy?

San Francisco

[The Review regrets the omission from the article mentioned that the architects are Anderson, Beckwith and Haible.]

The April Issue

FROM THOMAS K. MELOY, '17:
YOUR present policy of carrying articles and speeches and essays of M.I.T. professors, of M.I.T. meetings and the pertinent scientific and economic information, grouped in subjects makes profitable reading. The (April) issue about Physics was especially valuable.

M.I.T. is acknowledged as, and I believe, is the greatest engineering and scientific institution of the free world, if not the whole world. It should, therefore, have the best engineering review, equal or better than any of the many scientific and engineering publications. It should be equal to the best of the alumni reviews.

I think you are on the way to this goal. More power to you. . . .

Falls Church, Va.

A Salute to Capt. Payson

FROM CORDELIA B. HOWE:
AS ONE interested in oceanography and in the mysteries of the seas including unexplained ship disasters, I want to congratulate Captain Harold Payson, U.S.N. (Ret.) on an excellently written article relating to the sunken lightship Vineyard Haven, in the February issue of *The Review*—incidentally one of the finest of Alumnae publications.
Boston

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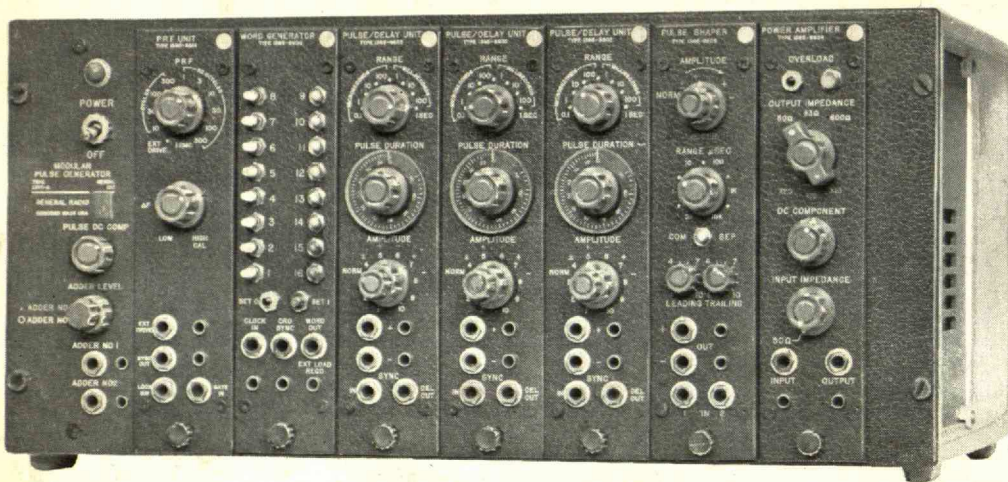
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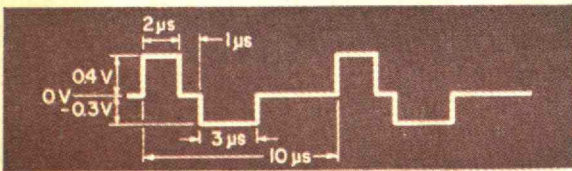
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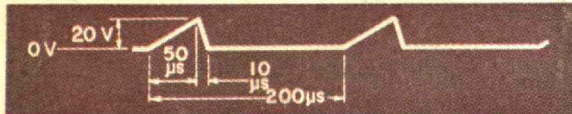


Type 1395-A Modular Pulse Generator containing three Pulse/Delay Units and one each of the PRF Unit, Word Generator, Pulse Shaper, and Power Amplifier modules.

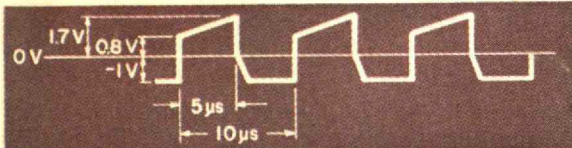
PULSES MADE TO ORDER



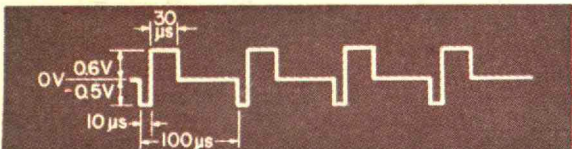
One PRF Unit and three Pulse/Delay Units operating at 100 kc/s. The positive and negative pulses are controlled by separate Pulse/Delay Units; the third unit controls the delay between the pulses.



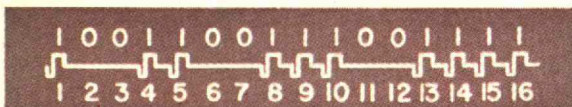
One PRF Unit, one Pulse/Delay Unit, and one Pulse Shaper with the PRF Unit set for 5 kc/s. Rise and fall times are independently variable.



One PRF Unit, one Pulse/Delay Unit, and one Pulse Shaper. PRF is 100 kc/s, and the zero-volt level is adjusted by the main chassis PULSE DC COMPONENT control.



Waveform that appears at the ADDER No. 1 terminal with one PRF Unit driving two Pulse/Delay Units at 10 kc/s. Amplitudes and durations of positive and negative pulses can be independently adjusted.



Pattern produced when a word generator is connected between the PRF Unit and the first Pulse/Delay Unit of the example given above, with switches set as shown.

This new pulse generator can produce thousands of different pulse shapes as single pulses, in bursts, or as trains of pulses. You can even form the desired pulses into binary patterns or words up to 112 bits long. The pulses can be amplified internally, delayed in time, or have noise or sine waves added to them. Amplitudes, durations, and delays of all segments of complex pulses are independently controllable; positive and negative outputs are available simultaneously. Whatever you may need — rectangular pulses, doublets, pulses with pedestals, ascending staircases, descending staircases, triangles, trapezoids, etc. — this instrument can do the job for you.

This instrument has been designed in modular form so that you can order only the pulse-generating capability you require. The various circuits that generate and shape the pulses are packaged in five separate modules, and as many as seven of these can be inserted in the main frame of the generator.

The main frame contains a power supply and other circuits that are common to all modules. As each module is inserted, electrical connections are made through mating of a plug and jack. Two ADDER busses with their corresponding output controls and jacks are included on the main frame to provide signals that represent the "sum" of outputs from the individual modules.

Modules from which you can now custom build your own pulse generator include:

PRF UNIT — provides internally generated repetition rates from 2.5 c/s to 1.2 Mc/s, from dc to 2 Mc/s when driven externally. Price: \$150

PULSE/DELAY UNIT — delays input pulses from 100 ns to 1 second and adjusts amplitude, polarity, and duration. Price: \$165

PULSE SHAPER — adjusts rise and fall times from 100 ns to 10 ms, either individually or simultaneously. Limit of 3 per frame. Price: \$375

POWER AMPLIFIER — delivers 20-volt pulses of either polarity into a 50-ohm load. Limit of one per frame. Price: \$250

WORD GENERATOR — produces binary words up to 16 bits long; as many as seven modules can be cascaded to provide 112-bit capability. Price: \$400

MAIN FRAME (without modules) — Price: \$500



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